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Automatic Safety Belt Usage in 1981 Toyotas

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16. Abstract <p>The objectives of this study were to evaluate the effectiveness of automatic restraint systems provided in Toyota Cressidas in increasing use of seat belts, and to evaluate attitude of owners toward those systems. Data were collected through telephone interviews and mailed questionnaires completed by 755 owners of Toyota Cressidas; 199 "control" owners of Toyota Coronas equipped with manual belts also were interviewed.</p> <p>Findings from this survey indicate that owners of automatic restrain systems are about twice as likely to use seat belts as are owners of manual systems.</p> <p>Owners of Cressidas rarely complained about the comfort or convenience of their seat belts. However, 25 percent cited belt interference with entrance and egress and rubbing across the face or neck as problems with the restraint system.</p> <p>Almost one fourth of purchasers of Toyota Cressidas purchased the model without knowing that the car was equipped with automatic seat belts. This finding may be of interest to owners of Toyota agencies.</p> <p>Responses of Toyota owners are compared and contrasted with those provided in a survey completed one year ago of owners of Chevettes and Rabbits.</p>			
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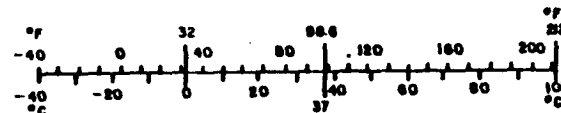
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

* 1 in = 2.54 exactly. For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price \$7.25, SD Catalog No. C13.10.286.

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
km	kilometers	1.1	yards	yd
		0.6	miles	mi
AREA				
cm ²	square centimeters	0.16	square inches	in ²
m ²	square meters	1.2	square yards	yd ²
km ²	square kilometers	0.4	square miles	mi ²
ha	hectares (10,000 m ²)	2.5	acres	
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m ³	cubic meters	36	cubic feet	ft ³
m ³	cubic meters	1.3	cubic yards	yd ³
TEMPERATURE (exact)				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

TECHNICAL SUMMARY

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This survey of owners of Toyota Cressidas equipped with automatic seat belts and Toyota Coronas equipped with manual seat belts was completed to assess the effectiveness of automatic restraint systems in increasing use of seat belts and to identify problems associated with their use. The study was designed to provide information that would complement that produced as a result of an earlier study of owners of Chevettes and Rabbits. Questions that had been asked of owners of 1980 Rabbits and Chevettes were asked of 199 owners of 1981 Toyota Coronas equipped with manual belts and 755 owners of 1981 Toyota Cressidas, all of which had automatic restraint systems. The completion of this survey introduces information from owners of luxury cars carrying price tags in the "five figure" range.

Belt Usage

Automatic restraint systems, offered as standard equipment on Toyota Cressidas, were found to be extremely effective in promoting use of seat belts. Of the 755 owners who responded to the same questions posed earlier to owners of Rabbits and Chevettes, 698, or over 92 percent reported that they had worn seat belts "the last time they drove the car."

Owners of manually equipped Coronas, on the other hand, reported use of seat belts "on the last trip" only 45 percent of the time--a rate similar to that reported by owners of manual Rabbits (48%) but higher than that reported by Chevette owners (31%).

Belt use among Toyota Cressida owners was higher than that reported by any of the other owners. Although 89 percent of the automatic Rabbit owners reported that they use the restraints, a significantly lower percentage, 70 percent, of the owners of Chevettes reported their use.

Few of the drivers among each of the three groups of surveyed owners reported using seat belts when they drove other cars with manual belts.

(Continue on additional pages)

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Comfort and Convenience

Use of seat belts appears to be directly related to the owner's assessment of the comfort and convenience of the restraint system. Seventy-one percent of the Cressida owners found the automatic system to be "convenient" and 65 percent reported that the belts were "comfortable". Of the owners who reported convenience, 98 percent also reported seat belt use. In contrast, only 70 percent of owners who considered the belts "inconvenient" used them. Nearly all (98%) of the Cressida owners who found seat belts "comfortable" said that they had worn the belts on their last trip.

Two problems were cited by at least 25 percent of Cressida owners: (a) "The belt resting or rubbing across the face or neck" was cited by 25 percent of Toyota owners and had been reported by a similar number of Rabbit owners and an even greater proportion of Chevette owners (40%), and (b) "The belt system interfering with your getting into, or out of the car" was mentioned by one out of every four respondents, considerably fewer than the two out of every three Chevette owners and the 37 percent of Rabbit owners to mention this problem.

A smaller proportion of Cressida owners than either Rabbit or Chevette owners reported problems with the way the belt crosses the chest, pressure on the shoulder or chest, chafing or rubbing, and damage to jewelry or clothing. This provides some evidence that Toyota had improved the automatic restraint system. However, some owners (14%) reported the upper mounting too close to the face.

Role of Automatic Restraint System at the Time of Purchase

Nearly two-thirds of the owners of Toyota Cressidas had inspected other models of Toyotas in the dealer's showroom before selecting the Cressida. Slightly over half the owners of Chevetttes and Rabbits had inspected other models before making a purchase. Nearly 22 percent of the Toyota Cressida owners reported that, at time of purchase, they did not know that the car had an automatic restraint system. This proportion is similar to that found among Rabbit owners but considerably lower than the 37 percent of Chevette owners who reported that they were not aware of the automatic belts at the time of purchase.

Only about 24 percent of the Cressida owners had already seen automatic belts in Toyotas before they went shopping for a new car. While considering the purchase, over half of them were shown cars equipped with automatic belts and 43 percent of them were able to actually get into a Cressida and try the system.

Although 63 percent of the Toyota purchasers reported that the salesperson demonstrated the use of the automatic belts, this proportion was exceeded in Rabbit showrooms (72%). About 9 percent of the owners of both Toyotas and Rabbits reported that the salespersons tried to explain how

the seat belt worked. Toyota sales persons were perceived as expressing favorable impressions of the belts more often than were Chevette or Rabbit salespersons. Slightly over one-fourth (27%) of the Cressida purchasers reported that the salesperson's attitude toward the belt was "neutral." Only three of the 755 Toyota owners of automatic systems said that the salesperson had expressed a negative opinion of the automatic seat belts.

Owners' Attitudes Toward the Automatic Restraint System

Toyota owners tend to be well satisfied with the automatic restraint systems on their Cressidas. The first impression of the automatic belts was "favorable" among 69 percent of Cressida owners who, after owning the car for nine months, remain favorably impressed and are joined by another 5 percent in making that evaluation. This finding is in striking contrast to the 39 percent of Chevette owners who first reported a favorable impression and the 49 percent who liked the belts after having them for nine months. Sixty-one percent of Rabbit owners reported favorable impressions at the time of purchase; this proportion had increased to 77 percent at the end of nine months.

Nearly three-fourths (74%) of the Cressida owners would select another car with an automatic restraint system. Seventy-seven percent of Rabbit owners would do so, but nearly half (49%) of the Chevette owners reported that they would choose manual belts when purchasing another car. These proportions were similar to those reporting that they were satisfied with their cars.

Status of Automatic Restraint System

Very few of the owners of Toyotas equipped with automatic belts had made an attempt to alter the system. Of less than 5 percent of the sample who had "fixed" the system, owners reported that belts had been "unbolted" or "cut off." Several owners reported that they simply sat on the belt rather than using them as intended. A few parents found that removal of the belts made use of children's seats easier. At least one person reported that the belts were difficult to use because a family member was in a wheelchair, a fact that provided the motivation for removal of the belts.

Influence of Demographic Characteristics

Data provided by owners of Toyota Cressidas indicate that the automatic belt system included in that model is looked upon with favor by the owners; relatively few problems with the belts were reported by the majority of owners, and owners report high usage of the belts. However, owners of

Toyota Cressidas were better educated and had higher incomes than any of the other groups who were surveyed. There is a tendency for well-educated, high income persons to use seat belts more often than other less fortunate members of our society, therefore, projection of these findings to the general population may not be appropriate.

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1. INTRODUCTION

Death and injury from motor vehicle crashes is a major public health problem, and there is no doubt that the proper use of restraint devices would reduce the incidence and severity of injuries resulting from crashes. At present, however, relatively few American drivers use the manual safety belts with which their cars are equipped. Studies conducted by the National Highway Traffic Administration (NHTSA) and others during the early and mid-1970's found that 15 to 20 percent of drivers used safety belts. Although usage has varied by region of the country, city size, road type, model, year and weight class of the automobile, and certain demographic characteristics of drivers, the overall level of belt usage remained fairly stable until recently. Over the past two or three years, however, belt usage has declined. The most recent data indicate that only about 11 percent of the American drivers use their safety belts.

The historically low use of safety belts by American drivers and the rather recent decline in safety belt usage raise questions about the acceptance of automatic safety belt systems. Three automobile manufacturers--General Motors, Volkswagen and Toyota--now offer (or did offer) automatic safety belt systems as an option or part of a luxury package in some of their models. Automatic safety belt systems were introduced first by Volkswagen in their 1975 Rabbits. General Motors introduced an automatic safety belt system in their 1978 and 1979 Chevettes, and, most recently, Toyota equipped their 1981 and 1982 Cressida models with an automatic safety belt system.

In 1980, interviews designed to explore seat belt usage and levels of acceptance were conducted for NHTSA by Opinion Research Corporation (ORC) with Chevette and Rabbit owners. The National Highway Traffic Safety Administration sponsored the current series of interviews with owners of 1981 Toyotas to augment the findings of the previous study. Both studies were conducted in order to determine the levels of acceptance of automatic safety belt systems and to identify problems associated with their use. Knowledge of the perceived advantages and disadvantages of the various features of automatic safety belts currently installed on three automobiles--Chevettes, Rabbits, and Toyota Cressidas--will assist automobile manufacturers in the design of passive restraint systems that are optimally acceptable to the driving public.

Comparisons of the data from owners of Chevettes, Rabbits, and Cressidas equipped with automatic restraint systems are particularly interesting and enlightening in view of the fact that these three cars represent a broad price range--and, undoubtedly, their owners are drawn from virtually the entire spectrum of American car buyers. The Toyota Cressida is the top of the line, selling for well over \$10,000. The Chevette's image is that of a low cost, fuel efficient, readily serviced, "buy American" car, while the VW Rabbit is a mid-priced car carrying the panache of European origins, efficiency, and top quality German engineering. Comparisons of

the attitudes and safety belt usage of the owners of these three automatic systems will considerably enhance understanding both of the advantages and disadvantages of specific engineering features of the system and of the motivations underlying restraint usage among drivers in different socio-economic strata.

The design for this survey of owners of Toyotas is presented in Chapter 2. Chapter 3 includes discussion of findings from this study and, in many instances, compares reports of Toyota owners with those from owners of Rabbits and Chevettes. Survey forms used for data collection are included in Appendix A. Figures in Appendix B graphically describe data presented in tables in the text of the report.

2. STUDY DESIGN

The objective of this study was to identify levels of acceptance and areas of resistance associated with automatic restraint systems in 1981 Toyotas. Data were collected from owners of 1981 Toyota Cressidas equipped with automatic seat belts and from owners of Toyota Coronas equipped with manually operated seat belts. These data will be compared to similar data collected from owners of 1980 Chevettes and Rabbits during an earlier survey completed for the National Highway Safety Administration. The study designs and samples were matched as nearly as possible. This chapter describes the design of the survey of Toyota owners. Information concerning the design of the earlier study can be found in the report prepared by Phillips and Willey for the National Highway Traffic Safety Administration.¹

The research findings for this study were derived from 809 telephone interviews and 145 mailed questionnaires completed by owners/drivers of 1981 Toyota Cressidas and Coronas. All respondents who were interviewed reported that they drove the Toyota and visited the dealer to select their new automobile.

A computer list containing names, addresses, and zip codes of a randomly selected sample of owners of 1981 Toyota Cressidas and Coronas was provided to the National Highway Traffic Safety Administration by Toyota Motor Sales, U.S.A., Inc. This listing of Toyota owners was the universe from which JWK International Corporation selected a sample. The listing contained 3,000 names of Cressida owners and 1,000 names of Corona owners. Addresses that were clearly those of businesses were eliminated from each list--an exercise that reduced the sampling universe by approximately one-third.

In order to obtain samples very similar to those in the earlier study, JWK attempted to match the Toyota sample to the actual zip codes present in the sample of VW Rabbits, an approach that was preferred to simply matching samples by region. The following steps were used to select the sample of Toyota owners:

1. Two computer listings were created, one containing the names and addresses of the automatic belt owners (Cressidas) and the other, the names and addresses of the manual belt owners (Coronas).
2. Each listing was ordered sequentially by zip code.

¹ B. Phillips and A. Willey, Automatic Safety Belt Systems Owner Usage and Attitudes in GM Chevettes and VW Rabbits, 1980 Models. Report # DOT HS 805 797. (U.S. Department of Transportation). Report available through National Technical Information Service, Springfield, Virginia.

3. Using these lists (one for automatic belt owners and one for manual belt owners) and lists of zip codes from the previous study (ordered sequentially), the zip codes of approximately 1,538 automatic belt Toyota owners and 308 manual belt Toyota owners were identified. Within zip code groupings (i.e., all 20000s, 22100s, etc.), random sampling (every nth case) was used to select sample cases so that each of the Toyota samples was proportional to the previous study samples with respect to zip codes. For example, if each of the previous samples included 2 percent in the 20000s, the aim was to structure each of the new samples to contain 2 percent in the 20000's. Where a match could not be achieved on the first three digits of the zip code, sample cases were identified according to the first two digits of the zip code.

The reduced sampling frame made it impossible to match zip codes beyond the first two digits for the Cressida sample and the first digit for the Corona sample. The North Central region was not well represented in the listing of Toyota owners; therefore, to obtain a sample large enough to complete the required number of interviews, it was necessary to over sample in the South.

Table 1 shows the geographic distribution of Toyota owners who completed interviews. The sample of Toyota Cressida owners closely parallels the earlier sample of owners of Chevettes with automatic belt systems. Figure 1 compares the distribution of persons surveyed by type of Toyota owned. Neither the sample of owners of Toyota Cressidas nor the sample of owners of Toyota Coronas constitutes a national probability sample; however, the samples are geographically representative. While the Toyota samples differ slightly from the geographic distribution of the samples of Chevette and Rabbit owners, they are equally representative.

TABLE 1 - GEOGRAPHIC DISTRIBUTION OF SAMPLE

Census Region	Automatic Restraint System			Manual Restraint System		
	Toyota	Chevette	Rabbit	Toyota	Chevette	Rabbit
Northeast	6%	3%	17%	19%	8%	15%
North Central	21	29	26	16	28	27
South	46	41	32	42	39	33
West	27	27	25	23	25	25

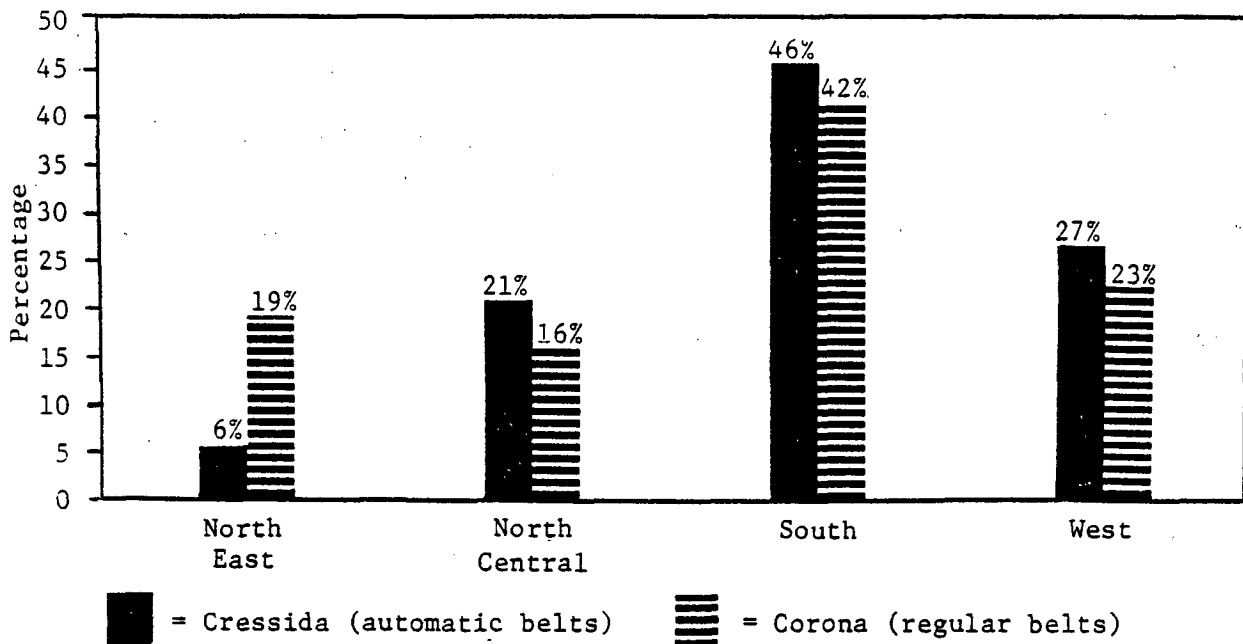


FIGURE 1 - GEOGRAPHIC DISTRIBUTION OF OWNERS OF 1981 TOYOTAS PARTICIPATING IN SURVEY

JWK's telephone interviewing staff worked week nights between 6 PM and 11 PM and Saturdays between 10 AM and 6 PM. Each interviewer was provided with the names and addresses of Toyota owners. The interviewer first contacted the appropriate telephone information service to obtain a telephone number. If a number was available, the interviewer placed a call within an assigned time (e.g., between 6 PM and 7 PM). If the interviewer was unable to reach a respondent, the call was rescheduled for a different time on a different day.

Approximately 40 percent of the Cressida sample and 35 percent of the Corona sample could not be reached by telephone because their telephone numbers were not available through information services provided by telephone companies. In a small number of cases, less than 5 percent, a qualified person, defined as one who drives the car and helped to select it, was not available for an interview. Table 2 shows the distribution of contacted households with eligible respondents. The telephone response rates are comparable to those achieved in the earlier study.

TABLE 2 - DISTRIBUTION OF CONTACTED HOUSEHOLDS WITH ELIGIBLE RESPONDENTS

	Automatic Restraint System			Manual Restraint System		
	Toyota	Chevette	Rabbit	Toyota	Chevette	Rabbit
Total number of households contacted with eligible respondents	788	1431	1590	273	314	367
Completed Interviews (%)	78	70	64	73	66	60
Refusals (%)	11	8	10	13	8	14
Owners not available after at least three call backs (%)	10	17	19	13	24	24
Business numbers (%)	2	5	7	1	2	2

The unusually large number of unlisted telephone numbers resulted in fewer completed interviews with Cressida owners than originally targeted. In an attempt to obtain at least 800 respondents, 400 names of Cressida owners for whom telephone numbers were unavailable were selected randomly. Of the questionnaires mailed to these individuals, 145 were returned, increasing the number of completed interviews to 755. No follow-up mailings were attempted.

3. FINDINGS

This section presents the findings of this survey in the same order that Opinion Research Corporation presented findings in their earlier study of 1980 Chevette and Rabbit owners. The first section presents a discussion of seat belt use by owners of cars equipped with automatic restraint systems or manually operated belts; findings across all three groups of owners, Toyotas, Chevettes and Rabbits, are included. The next section relates attitudes of purchasers toward automatic restraint systems at the time of purchase and describes efforts of salespersons to demonstrate or explain operation of the automatic belts. The section that follows compares attitudes of purchasers at the time of sale with their current impression of the automatic restraint system. Methods for altering seat belts are presented next. An important issue is addressed in the next section where the problems associated with automatic restraint systems and their use are reported. In the final section, owner characteristics are compared in an attempt to determine whether or not automobile owners' demographic characteristics are related to their attitudes toward automatic restraint systems and to use of the automatic belts.

Data have been analyzed to parallel the presentation of data from the earlier study of owners of Chevettes and Rabbits. Several comparisons in the current and earlier studies included data provided by owners of cars equipped with manual systems in addition to information provided by owners of cars with automatic seat belts. In instances when information from all six groups of owners is compared, identical questions were used to collect that data.

In the following discussion of findings from the survey, the terms "automatic restraint system," "automatic belts," "automatic seat belts," and "automatic Chevette, Rabbit, or Toyota" are all synonymous. "Manual" and "regular" are the terms most often used to describe traditional belt systems.

Belt Usage

Usage rates in the current study, as in the earlier ORC survey of owners of 1980 Chevettes and Rabbits, are based on responses to the question "Try to recall that last trip and tell me as accurately as you can if you did or did not wear the safety belt." This statement, originally prepared by ORC, was retained for this survey since use of a seat belt on the "last trip" is considered the most valid self-report for measuring seat belt use. Use of an identical statement in each survey also assists in making comparisons between owners of cars produced by the three different manufacturers.

Owners of 1981 Toyotas equipped with automatic belt systems reported markedly greater use of seat belts than did owners of 1981 Toyotas with regular belt systems. As Figure 2 shows, the reported usage rate in Toyotas with automatic systems was 47 percent higher than the usage rate for Toyotas with the regular belt system (92% vs. 45%). In the earlier

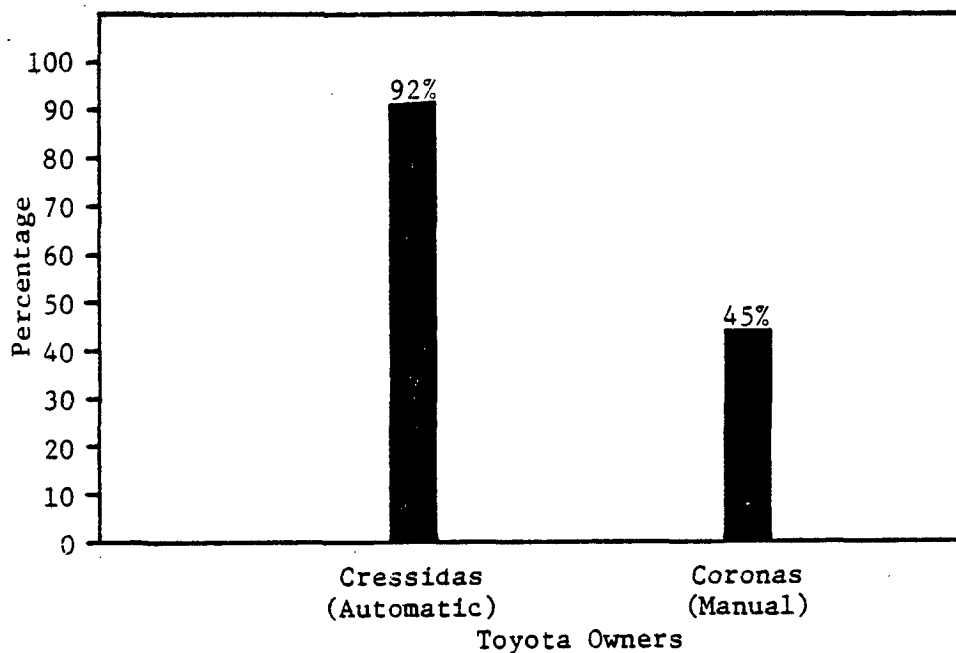


FIGURE 2 - PERCENTAGE OF TOYOTA OWNERS WHO REPORTED THEY WORE SAFETY BELTS ON LAST TRIP

study conducted by Opinion Research Corporation for NHTSA, owners of 1980 Chevettes and Rabbits reported the following usage rates: automatic Chevettes (70%), regular Chevettes (31%); automatic Rabbits (89%); and regular Rabbits (48%) (Figure 3). Owners of Toyotas with automatic restraint systems and owners of 1980 automatic Rabbits both reported high rates (92% and 89%) of use of automatic belts, exceeding by 22 percent and 19 percent the usage rate reported by owners of automatic Chevettes (70%).

Owners of Toyota Cressidas were found to differ very little from owners of Toyota Coronas. Slightly over half of the owners of Cressidas (54%) and Coronas (56%) were men; over half of each group reported their age as between 30 and 49; and over half of each group had attended college. Nearly all owned 4-door models. Table 3 provides further descriptive information.

Further analyses of data provided by owners of Toyota Cressidas equipped with automatic seat belts are reported in Table 4 where the percentage of owners who said they wore belts "the last time they drove" is reported by owner characteristics.

TABLE 3 - DEMOGRAPHIC CHARACTERISTICS OF TOYOTA OWNERS

Owner Characteristics	Seat Belt Type	
	Automatic	Manual
Male	53%	56%
Female	46	42
Under 30	12	19
30-49	50	53
50 years or older	34	24
High School or less	22	23
Some College	51	52
Graduate School	21	20
Under 5'6"	34	34
5'6" - 5'11"	46	42
6' or over	19	22
Under 140 lbs.	35	35
140-179	36	38
180-199	15	15
200 or more	11	8

NOTE: Percentages in the above table will not always total 100 due to round-off error, missing data, and/or refusal by interviewee to answer a given question.

TABLE 4 - REPORTED SEAT BELT USAGE BY OWNER CHARACTERISTICS

Owner Characteristics	Percent of Owners Who said They Wore Belts "Last time they drove"
Male	95%
Female	93
Under 30	95
30-49	95
50 years or older	93
High School or less	87
Some College	90
Graduate School	97
Under 5'6"	93
5'6" - 5'11"	95
6' or over	94
Under 140 lbs.	93
140-179	95
180-199	95
200 or more	94

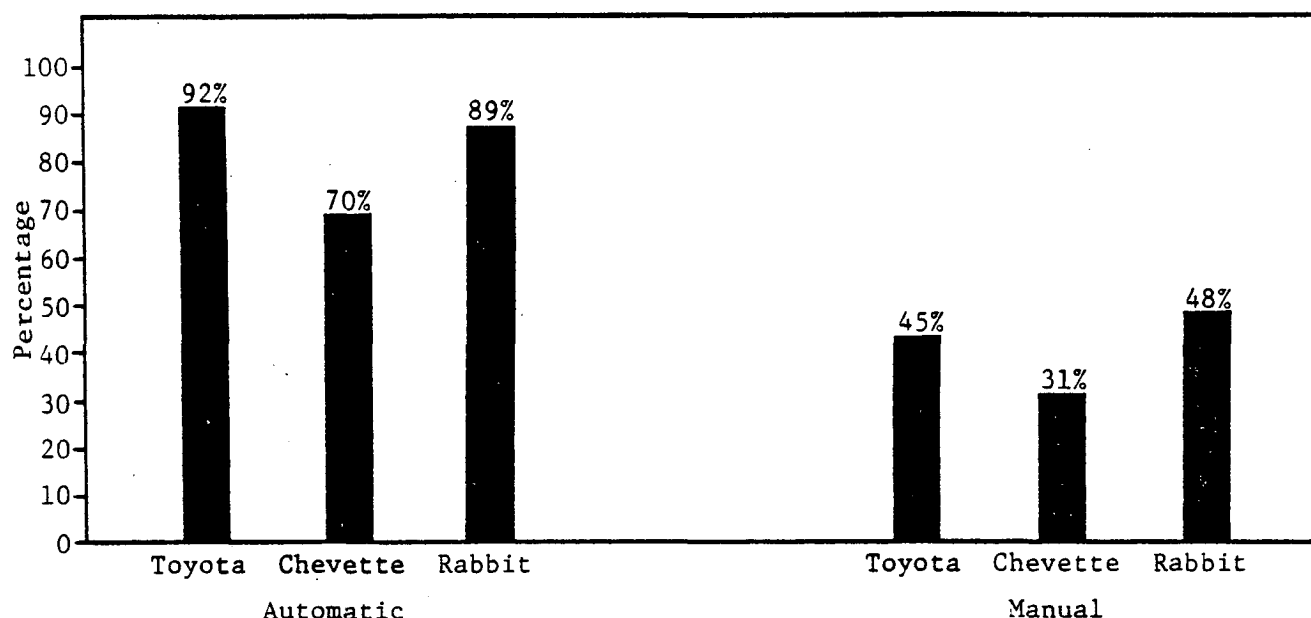


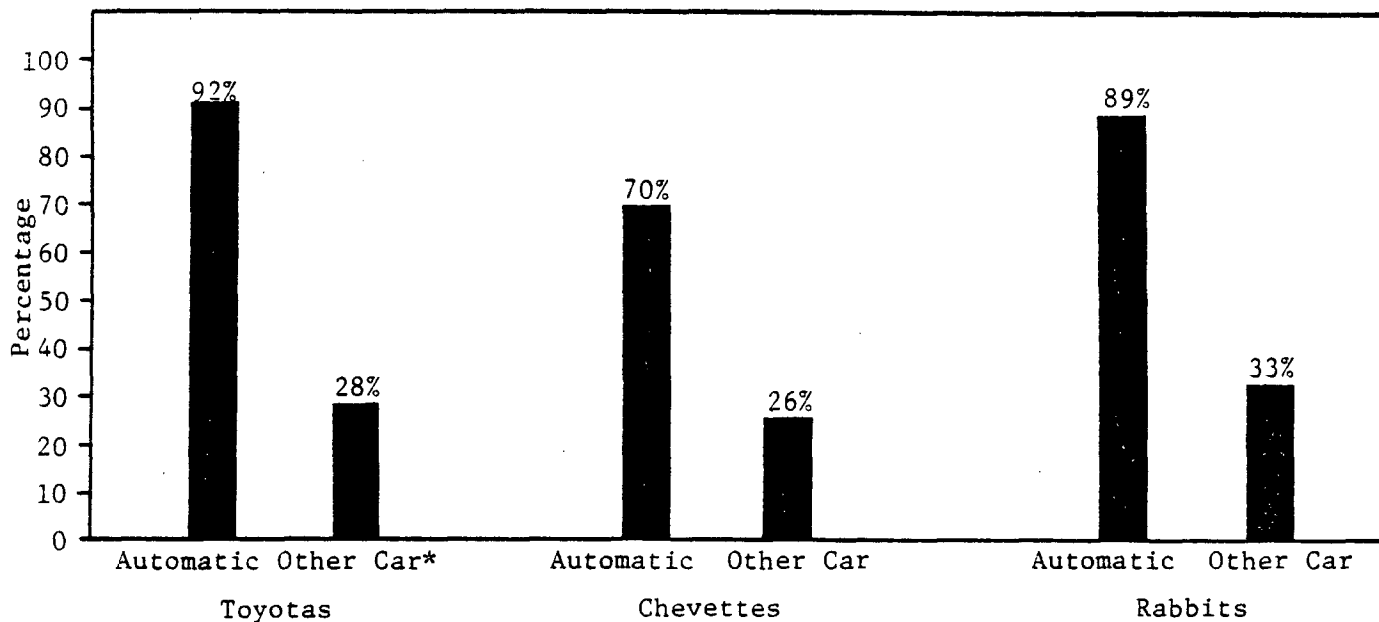
FIGURE 3 - PERCENTAGE OF OWNERS WHO REPORTED THEY WORE SAFETY BELTS THE LAST TIME THEY DROVE

As Figure 4 indicates, the number of owners of Toyota Cressidas who reported that they wore belts "the last time they drove" their own cars (92%) was more than three times as great as the number who reported that they wore belts when driving another car (28%). Figure 4 also contrasts "last time" seat belt usage by owners of Chevettes and Rabbits equipped with automatic restraints with these owners' seat belt usage in cars not equipped with automatic restraints.

A comparison of reported belt usage among owners when they drove their Toyota Coronas equipped with manual belts and those same owners when driving "other" cars failed to show much difference (Figure 5). Forty-five percent of owners of manually equipped Toyotas wore seat belts the last time they drove their car; 38 percent wore belts when driving other cars. When the reported usage rate for individuals with manual seat belts was compared with their reported usage when they were driving other cars, all three groups of owners were found to report similar use of restraint systems.

Use of Automatic Restraint Systems by Special Owner Subgroups

Table 5 shows the results of crosstabulations between belt usage by owners of Automatic Toyotas and responses to other questions in the survey.



* Other car equipped with regular belt system.

FIGURE 4 - PERCENTAGE OF AUTOMATIC TOYOTA, CHEVETTE, AND RABBIT OWNERS WHO WORE SAFETY BELTS THE LAST TIME THEY DROVE OTHER CARS

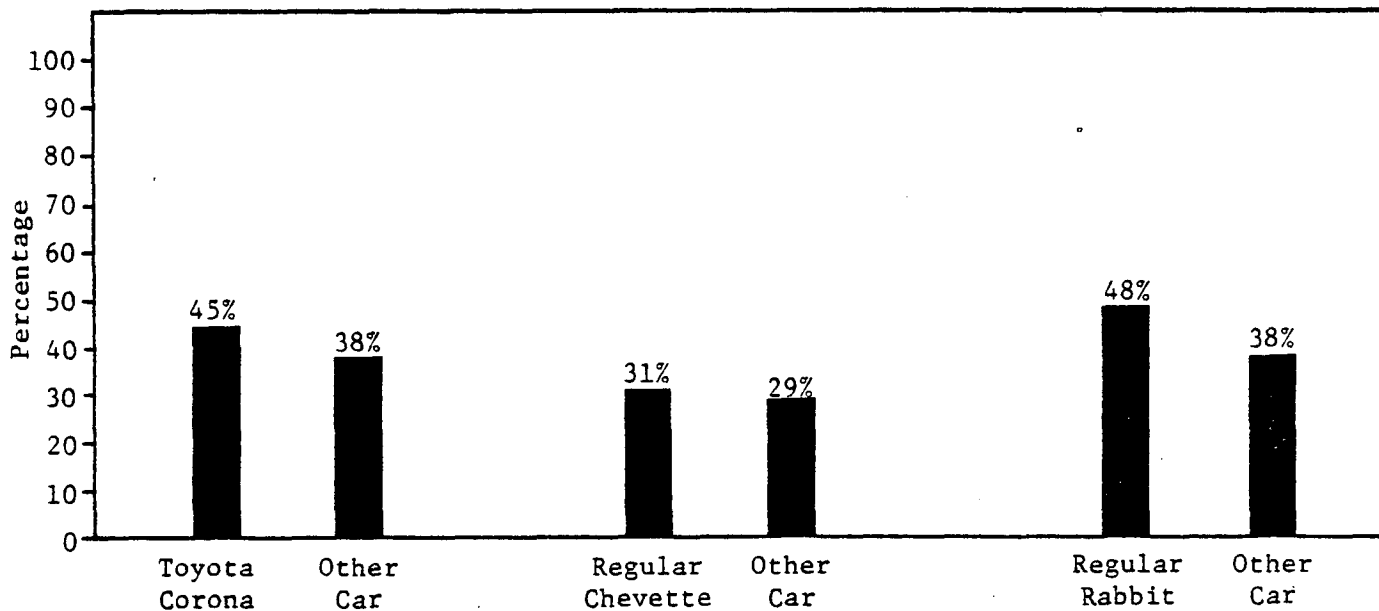


FIGURE 5 - PERCENTAGE OF REGULAR TOYOTA, CHEVETTE, AND RABBIT OWNERS WHO WORE SAFETY BELTS THE LAST TIME THEY DROVE OTHER CARS

TABLE 5 - AUTOMATIC RESTRAINT USAGE BY SPECIAL OWNER SUBGROUPS

Owner Subgroups	Number of Cressida Owners	Percent	Percent Who Wore Safety Belts "Last Time They Drove"
Total Owners	755	100%	92%
(1) Said they didn't know they were buying a car with automatic belt system	165	22	92
Did not say this	590	78	95
(2) Last round trip was:			
Short (less than 25 miles)	446	59	95
Longer (more than 25 miles)	298	40	94
(3) Automatic system dis- connected	38	5	34
Not disconnected	717	95	97
(4) Said automatic belt was convenient to use	523	69	98
Reasonably convenient	153	20	93
Not convenient	63	8	70
(5) Comfortable to wear	485	64	98
Reasonably comfortable	175	23	97
Not comfortable	85	11	72

- Reported usage tended to be only slightly lower among owners who reported that, at the time of purchase, they did not know they were buying a car with an automatic restraint system than among owners who did not make that statement (92% vs. 94%).
- Reported belt usage tended to be only slightly greater between those who said their last trip was a short one (less than 25 miles) and those who said their last trip was longer (more than 25 miles) (95% vs. 94%).
- Owners who said that the belt was "convenient to use" reported the greatest tendency to use safety belts (98%). Those who considered use of the belt only "reasonably convenient" had a usage score of 93 percent, while those who found belts "not convenient to use" had usage scores of 70 percent.
- Owners who found the belts "comfortable to wear" reported usage rates of 98 percent. Owners reporting the belts as "reasonably comfortable" reported a usage rate of 97 percent, while owners who said belts were "uncomfortable" reported a usage rate of little more than 72 percent.

Role of Automatic Restraint Systems at the Time of Purchase

Toyota owners who purchased Cressidas equipped with automatic restraint systems were asked several questions to determine whether or not they had:

- Inspected other models in the showroom,
- Seen the automatic belt before purchasing the Cressida,
- Tried on the automatic belt when in the showroom, and/or
- Been favorably impressed with the automatic belt at the time of purchase.

Sixty-three percent of Toyota Cressida owners reported that they had indeed "inspected other models in the showroom before deciding to buy the car" (Figure 6); 31 percent said they knew pretty much what they wanted and "just ordered the car." However, among both Chevette and Rabbit owners who purchased models with automatic seat belts, the proportion of those who reported that they inspected other models in the showrooms before deciding to buy the model they now own and the proportions who reported that they did not inspect other models in the showroom were similar.

As noted, 63 percent of purchasers of automatic Toyotas inspected various models of Toyotas before making a purchase (Table 6). Twenty-two

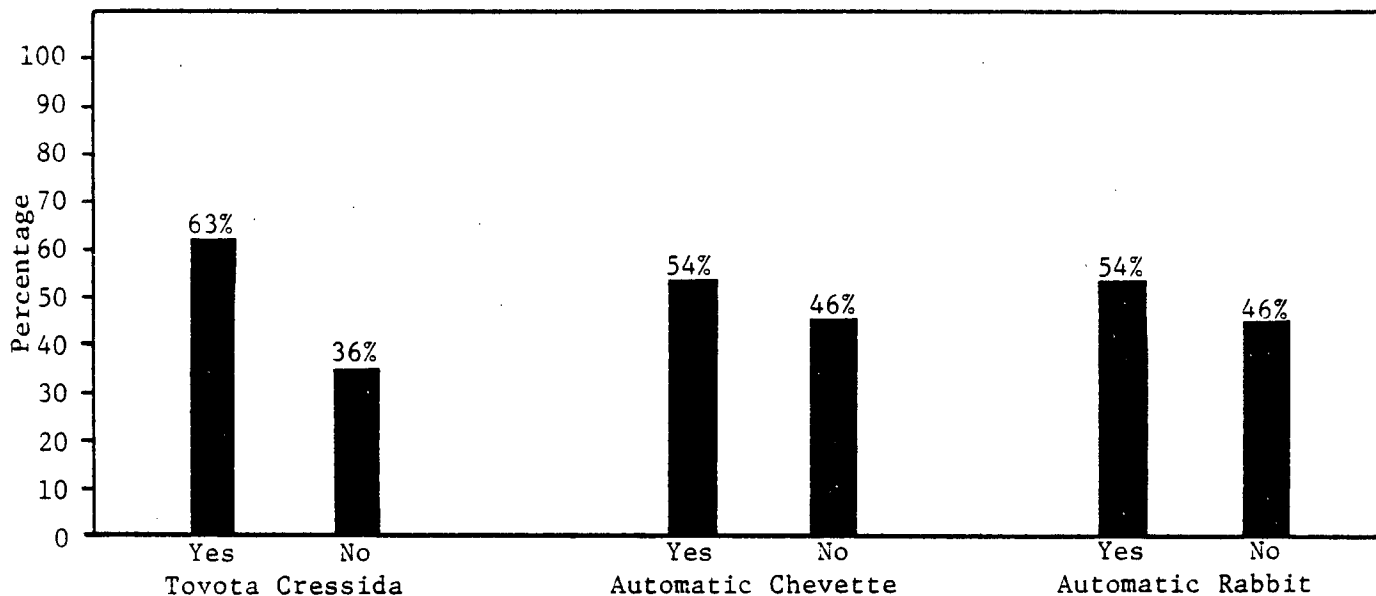


FIGURE 6 - RESPONSE TO QUESTION, "DID YOU INSPECT OTHER MODELS IN THE SHOWROOM BEFORE YOU DECIDED TO BUY THE CAR YOU NOW HAVE?"

TABLE 6 - EXPERIENCE AND ATTITUDES IN THE SHOWROOM

Experience/Attitude	Automatic Toyota	Automatic Chevette	Automatic Rabbit
Total Owners	755	1002	1013
Inspected other models in showroom	63%	54%	54%
Saw models with automatic belts	51	13	25
Tried on automatic belt	43	6	16
Described impression of belt as:			
Favorable	69	2	9
Unfavorable	12	3	4
Neutral	14	(a)	2
No Opinion	5	(a)	1

a = 1/2 of 1% or less

percent of the owners of Toyotas with automatic safety belt systems were unaware at the time they were in the showroom that they were purchasing a car with an automatic restraint system. Thirty-seven percent of the owners of automatic Chevettes and 25 percent of the owners of Rabbits with automatic restraint systems were not aware of the automatic safety system at the time of purchase.

Purchasers of Toyota Cressidas not only reported that they had inspected other models in the showroom (63%), but over half (51%) reported that they had seen models with automatic belts, and 43 percent of the respondents actually entered the car and tried on the seat belt (Table 6). Only 12 percent of the Toyota Cressida owners described their first impression of the belt as unfavorable; in contrast, 69 percent reported a favorable impression. Among Cressida purchasers, 14 percent reported "neutral" feelings about the automatic belt, and another 5 percent expressed "no opinion."

Although not shown in Table 6, it is interesting to note that of the owners of Toyota Coronas, 30 percent had seen a Toyota model equipped with automatic restraint systems. In addition, nearly 26 percent had tried on automatic belts before selecting the manual restraint equipped Corona.

Table 6 reveals the differences in showroom experiences and attitudes of purchasers of Chevettes and Rabbits with automatic restraint systems. A larger percentage of the surveyed Cressida owners inspected other models than did Chevette or Rabbit owners. In addition, more Toyota Cressida owners had favorable impressions of automatic seat belts than had Chevette or Rabbit owners.

Awareness of Automatic Belt Systems at Time of Purchase

Seventy-six percent of the Toyota owners first heard of or became aware of automatic restraint systems at the time they bought the car, and only 24 percent had any knowledge of automatic belt systems prior to visiting the showroom where they bought the car.¹ Information, when available, had come from advertising, by word of mouth, and by seeing automatic restraints in the same model car owned by another person.

Sources of information reported by purchasers of Toyotas equipped with automatic restraint systems were nearly identical to those reported by owners of automatic Chevettes and were similar to those provided earlier by owners of automatic Rabbits (Table 7).

Only 5 percent of the owners of Toyota Cressidas had specifically requested that an automatic restraint system be provided on the car. This

¹ Information was collected in response to the situation, "I'm going to read four different ways that you might have first heard of or become aware of the automatic safety belt system. After I've read the four statements, please tell me which way best describes how you first became aware of it" (Question 9).

TABLE 7 - HOW PURCHASERS BECAME AWARE OF AUTOMATIC SAFETY BELT SYSTEM

Source of Information	Type Automobile		
	Toyota	Chevette	Rabbit
At dealer where car was purchased	76%	74%	65%
Through advertising:			
Print	11	6	10
T.V., Radio	2	6	4
	13	12	14
Saw same model, owned by someone else	3	4	10
Word-of-mouth	3	7	5
Other answer	5	3	3

finding was not surprising since the same low proportion of Chevette owners had reported earlier that they had specifically requested an automatic restraint system, and only 12 percent of Rabbit owners in the earlier study reported making that request. Two percent of owners of Toyotas equipped with automatic belts wanted that equipment for safety reasons; another 2 percent said they requested the automatic restraints because they felt they would be more convenient to use than manual belts.¹

Role of Restraint System in Car Purchasing Decision

Nearly 78 percent of owners of Toyotas equipped with automatic restraint systems reported that they decided to buy a car with automatic belts because automatic belts were already on the cars they wanted--the

¹ These findings are responses to the questions "Did you specifically ask for or request an automatic belt system when you bought your Toyota?" and "Why did you want an automatic belt system?" (Questions 11a and 11b).

belt system did not influence the choice (Table 8). Nearly 10 percent of purchasers of Toyota cars so equipped stated that they preferred automatic belts. In the 1980 survey, nearly 39 percent of Chevette and Rabbit owners reported that they selected a car with automatic seat belts because the car was the only one the dealer had available with all the other options desired; in the 1981 survey fewer than 5 percent (4.84%) of Toyota Cressida purchasers reported that their selection of cars was restricted by the limited number available with other desired options. Fewer than 3 percent of Toyota owners reported purchasing the only model that was available for immediate delivery.

TABLE 8 - REASONS REPORTED FOR PURCHASING MODEL ACTUALLY SELECTED
(In Percent)

Reasons Given	Models		
	Automatic Toyota	Automatic Chevette	Automatic Rabbit
Only car available with all the other options I wanted	5%	38%	39%
Only model available for immediate delivery	3	19	17
Liked the automatic belt	10	12	23
Gave discount because of the belt system	<1	3	<1

Demonstration of Automatic Belt Systems

Sixty-three percent of Toyota Cressida owners reported that the salesperson had actually demonstrated how to use the automatic restraint system before the car was purchased (Figure 7). Of purchasers who did not see a demonstration of the belt (284), 54 percent (154) had been given an explanation of how the system actually worked (Figure 8). Sixty-six percent of the owners who received explanations or demonstrations reported that the explanation or demonstration had been provided before the car was purchased; another 15 percent reported that the demonstration or explanation was provided when the car was delivered.

Twenty-eight percent of Cressida owners reported that the salesman did not demonstrate the seat belts, and 17 percent of these owners also reported that the salesman did not explain, at the time of purchase, how the belts actually worked.

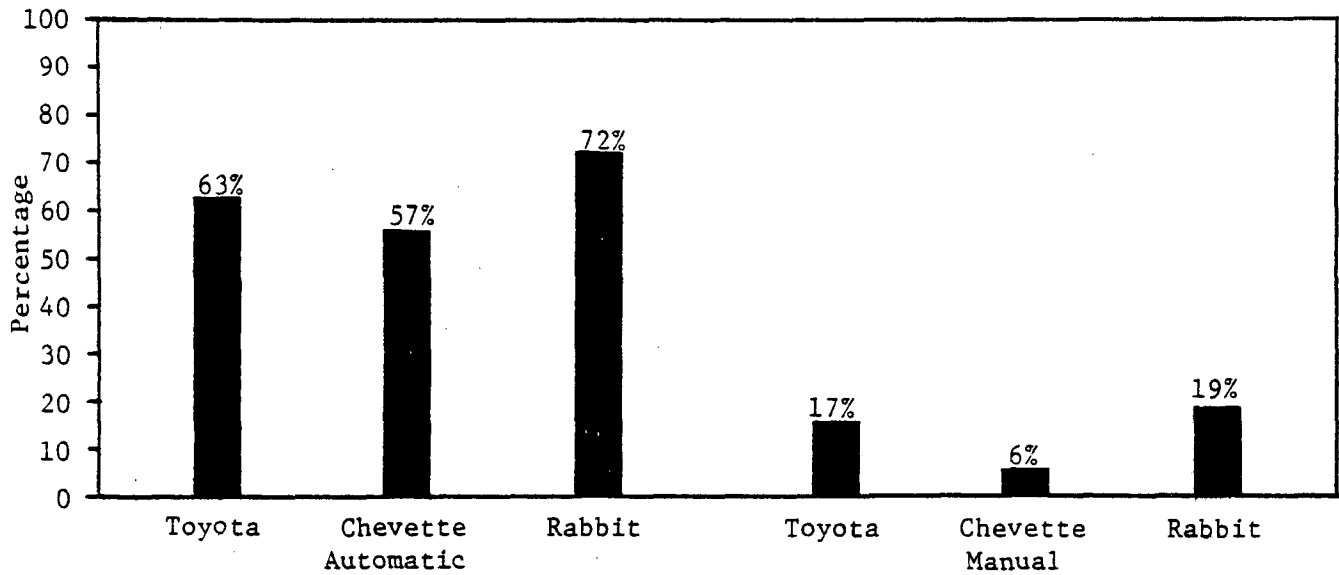


FIGURE 7 - PERCENTAGE OF OWNERS REPORTING THAT SALESPERSON DEMONSTRATED AUTOMATIC FEATURES OF SAFETY BELTS

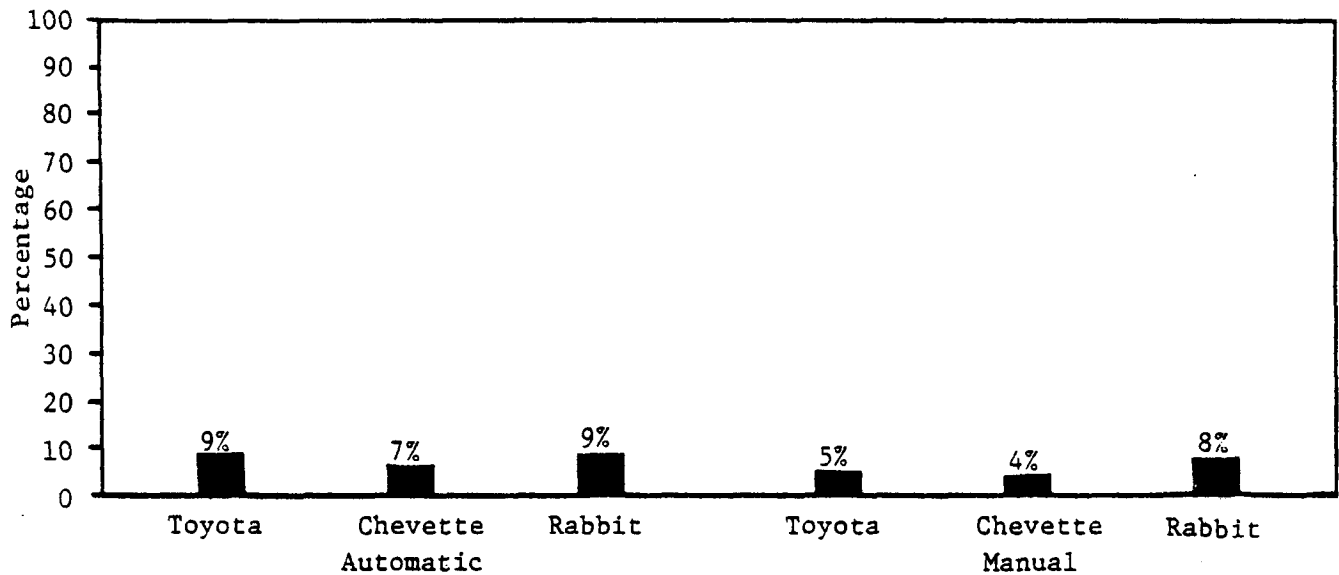


FIGURE 8 - PERCENTAGE OF OWNERS WHO REPORTED THAT SALESPERSON EXPLAINED, BUT DID NOT DEMONSTRATE, AUTOMATIC FEATURES OF SAFETY BELTS

Demonstrations of automatic seat belts to prospective owners of cars with that equipment were less frequently provided by Chevette and Rabbit salespersons than they were by Toyota salespersons. Figure 7 contrasts these differences by make of auto.

As Table 9 shows, Toyota salespersons tend to have a more favorable opinion of automatic seat belts than do Chevette or Rabbit salespersons (52% vs. 24% and 40%). Although over half (58%) of the Chevette salespersons and nearly half (48%) of salespersons for automatic Rabbits had conveyed no distinct impressions of their attitudes toward the automatic restraint systems, only 27 percent of Toyota salespersons took this neutral position. Only three respondents of the 755 owners who were questioned (<1%) described the salesperson's opinion of the automatic safety belt as unfavorable. Nine percent of owners of automatic Chevetttes described the salesperson's attitude as unfavorable, and 2 percent of automatic Rabbit owners had the same impression of their salesperson's attitude toward automatic seat belts.

TABLE 9 - PERCENTAGE OF SALESPERSONS SEEN "AS BEING FAVORABLE OR UNFAVORABLE TOWARD AUTOMATIC SAFETY BELTS"

Attitude	Automatic Toyota	Automatic Chevette	Automatic Rabbit
Favorable	52%	24%	40%
Unfavorable	<1	9	2
Neutral	27	58	48
Don't recall	21	9	10

A neutral attitude expressed by a salesperson toward a special feature of an automobile being considered for purchase may be interpreted by the customer as evidence of little enthusiasm for that feature. The findings indicate a need to convey to Chevette and Rabbit dealers the virtues of automatic belt systems. The positive attitude of Toyota salespersons toward automatic restraints may have been influential in affecting customers' opinions of automatic systems, if not their decision to purchase such a system.

Attitudes of purchasers toward their automatic restraint systems are explored and reported in the next section.

Owners' Impressions of Automatic Seat Belts

Toyota owners of cars equipped with automatic belts liked the belts when the car was originally ordered (69%) and reported that their favorable attitude continued over time (74%). Although the proportion of Cressida owners reporting a favorable impression of the belts gained only 5 percentage points after they had owned the car for several months, the initial proportion with a favorable impression was much higher than that of either the Chevette or Rabbit owners surveyed earlier. Owners of Rabbits showed a significantly higher level of satisfaction after owning the car for several months than they did at the time of purchase. Contrasts in satisfaction levels reported by owners of all three makes of automatically equipped cars are shown in Figure 9.

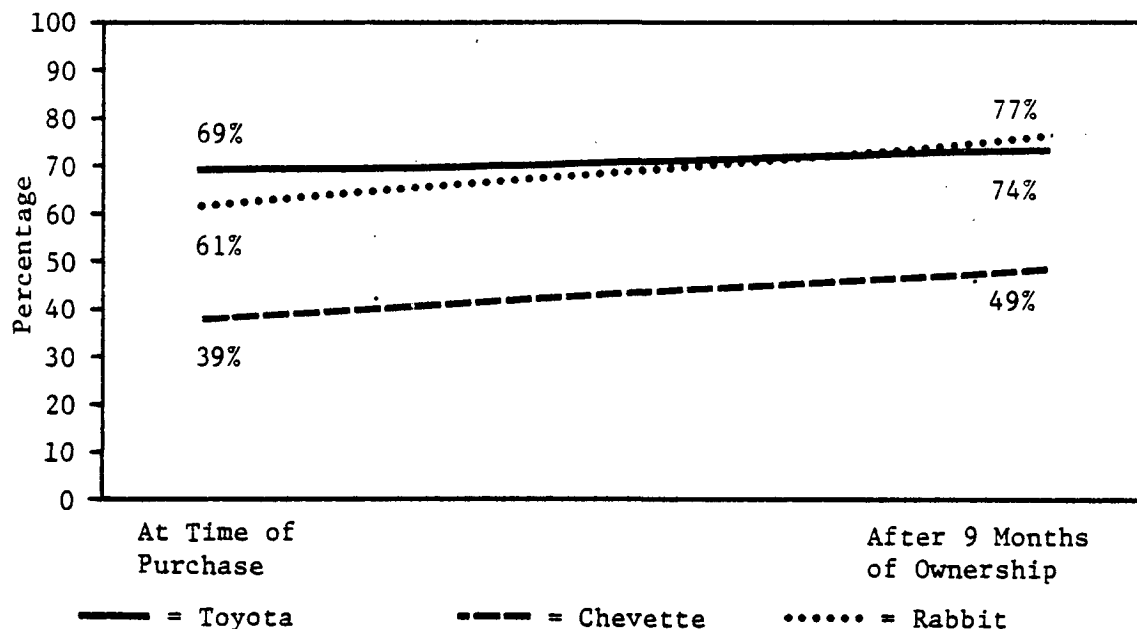


FIGURE 9 - PERCENTAGE OF OWNERS REPORTING FAVORABLE IMPRESSIONS OF AUTOMATIC SAFETY BELTS AT TWO POINTS IN TIME

Owners' Preferences for Type of Safety Belt When Purchasing Another Car

The number of owners of Toyota Cressidas who reported that they would choose an automatic restraint system if ordering another new car is almost identical to the number of owners who reported a favorable impression of

the automatic belts. Five hundred fifty-seven owners (73.77%) reported that they again would choose an automatic system, while 563 (74.57%) reported favorable impressions of their automatic belts. Three out of four automatic Rabbit owners indicated a preference for this type of restraint system; 77 percent of Rabbit owners also were impressed favorably with their automatic restraints. Chevette owners, on the other hand, gave a low rating to the automatic restraints in their 1980 Chevetttes, and only 44 percent of those owners indicated that they would choose an automatic safety belt if selecting a new car. Nearly half (49%) of the Chevette owners stated that they would choose a manual system when purchasing another car. (See Table 10.)

TABLE 10 - OWNERS' PREFERENCES FOR TYPE OF BELT SYSTEM IF PURCHASING ANOTHER CAR

Preference in Another Car	Owners		
	Automatic Toyota	Automatic Chevette	Automatic Rabbit
Automatic	74%	44%	74%
Manual	18	49	20
Other/No opinion	8	7	6

Advantages of Restraint Systems

When asked to describe what they most liked about the automatic restraint system, Cressida owners gave replies that were related to convenience, safety, and comfort. The following quotes are typical of responses to the question, "What specifically do you like most about your automatic belt?"

"Friends have to wear the seat belt--I don't have to tell them to put it on."

"The fact that it is automatic and I used it and didn't forget to buckle up."

"I think its great because I sometimes forget to use them in other cars."

"The way it goes to the front of the door--leaves plenty of room to get in the car."

"It makes me feel safe."

"Don't have to be annoyed by warning buzzers."

"It's effective, although not restrictive or confining."

"It's flexible, you can move without being tied down."

Negative responses to this question were provided by the relatively few who did not like the automatic restraint system. A typical response was:

"Nothing, I wish it wasn't in the car."

When asked what they liked least about the automatic safety belt, Toyota owners tended to report most often that the belt "gets in the way," is "difficult with packages such as groceries," and makes it "difficult to reach over to the passenger's seat." Problems with fit were mentioned frequently.

A concern about the difficulty associated with using the belt with a child's safety seat was occasionally expressed. Some typical responses are presented here just as given by the Cressida owners during the interview:

"It is very awkward to take a parcel (or purse) from the passenger's side out the driver's side."

"Children or short people have a problem. It hits them in the neck (or face)."

"It hits me in the head and bothers me across my chest."

"Would like automatic lap as well as automatic shoulder belt."

"When one desires or needs to turn around in the seat, it gets in the way."

"It fits very loosely and never locks you in."

"I'm afraid if it breaks, I won't be able to fix it or that it may be very expensive."

"It's not good for children's baby seats."

"It scares older people (and some other passengers)."

"It is difficult to reach anything."

"It gets in your way if you're working on the car with the door open."

"It knocks off your hat (or glasses)."

Status of Restraint System at Time of Interview

In response to the question, "Has either the driver's or passenger's safety belt in your Toyota been cut off, or removed, or in some way fixed so it can't be used?" only 38 Cressida owners, or about 5 percent of the sample, indicated that some alteration had been made. This proportion is identical to that of Rabbit owners who have "fixed" the restraint system. In contrast, less than one percent of owners of Toyota Coronas and Rabbits equipped with manual systems had altered the system. Among responses to the question, "What was done to the belt so it can't be used?" the following responses were typical:

"The belt was disconnected."

"I flipped the belt behind me and sat on it."

"The belt was cut off and removed."

"The belt was unbolted."

"The dealer took them off."

"The belt was hooked behind the headrest."

"Only the shoulder harness was disconnected."

Toyota owners who had altered the restraint system next were asked why this had been done. References to inconvenience were most frequent. The following comments are typical:

"The belt was an inconvenience."

"The belt was annoying on long trips."

"I found the belts to be a stupid nuisance."

"My husband is in a wheelchair."

"The belt cut across the chest and neck."

"The belt rolled long hair into the track."

"The belt would slap you in the face and rub across the eyes."

"The belt was a hazard--anytime you leave the car with something in your right hand the belt gets in the way."

Of users who had removed, cut off, or otherwise altered the automatic restraint system (36), 58 percent reported that the belts were "not convenient" and another 25 percent found the belts only "reasonably convenient." Sixty-four percent of these owners said that the restraint system is "not comfortable"; another 19 percent found the belts only "reasonably comfortable." Nearly two-thirds (65%) of the owners who had removed the belts or otherwise altered its structure were men; however, of the men in the sample, nearly 93 percent were using the restraint system just as it had been when the car was delivered. Even though 92 percent of 755 Cressida owners who were interviewed said that they wore the belt "on the last trip when driving the car," a number of varied responses were obtained when Cressida owners were asked, "What do you do with the belt so that you do not have to use it?"

"Place it behind me after closing the doors."

"Sit on it."

"Put it under my left arm."

"On long trips, I duck under it."

"I stuck it behind the headrest."

"Use the emergency release."

"Disconnect the electrical control."

Fourteen percent of owners of Toyotas equipped with automatic belts reported that they had some problems with the belt's malfunctions. The following direct quotes from the questionnaires typify the responses to the question regarding malfunctions:

"There was a problem with the emergency release--factory recalled car."

"Belt did not return when the door was open."

"Belt works on passenger's side only 30 percent of the time--fails to retract."

"There was a problem with the electrical connection--belt didn't fit person's body close enough."

"The computer that moves the belt back and forth failed."

"The belt sticks halfway on the track."

"The belt gets twisted."

Preference for One Disconnect Buckle Versus Present System

Although the vast majority of owners of Toyotas with automatic seat belts report satisfaction with the belts, nearly 30 percent said that they would have preferred an automatic safety belt system that came with a buckle release so that the system could be disconnected. This response was more typical of owners who did not use the seat belts during the last reported trip. Nearly 59 percent of Toyota Cressida owners who preferred a belt system with a buckle release failed to use the restraint system "on that last trip."

Of the 222 Toyota owners who reported that they would prefer a belt with a single release buckle, over 25 percent found the automatic restraint system to be "not comfortable," 22 percent said that the automatic belts were "not convenient." In contrast, of the 495 Toyota owners who did not prefer a single buckle release, 75 percent reported the belts "comfortable," while 82 percent found them "convenient." Fewer than 3 percent of owners in this group found the belts "inconvenient," and 5 percent reported them to be "uncomfortable."

Comfort and Convenience

Convenience

Only 6 percent of owners of Toyotas with conventional safety belt systems and 9 percent of owners of Toyota with automatic belt systems reported that the belts were "inconvenient" to use. Sixty-eight percent of Corona owners and 69 percent of Cressida owners found the belt systems "convenient," while 24 percent of owners of manual belts judged them "reasonably convenient" and 21 percent of owners of automatic belts evaluated the system in that way.

Table 11 presents summary results reported by owners of all three makes of cars to the question that produced convenience ratings. Similar ratings of convenience and comfort were provided by owners of automatic Toyotas and Rabbits and by owners of manual Toyotas and Rabbits.¹ Chevette owners, on the contrary, more often judged the automatic systems to be not convenient. Convenience ratings of both Toyota and Rabbit owners of automatic belts were significantly higher than ratings given by Chevette owners.

¹ This information, of course, does not allow us to make a direct comparison of the convenience of automatic and manual belt systems since the responses were obtained from different groups of owners. It would have been interesting to have asked the automatic system owners if that system was more or less convenient than conventional belts in their "other" car.

TABLE 11 - CONVENIENCE RATINGS

Rating	Automatic			Manual		
	Toyota	Chevette	Rabbit	Toyota	Chevette	Rabbit
Convenient	69	36	64	68	50	48
Reasonably convenient	21	30	27	24	25	39
Not convenient	9	33	9	6	19	11
Not reported	1	1	0	2	6	2

Comfort

Each respondent reported on the comfort of his/her seat belt system. Table 12 shows the results for each type of owner surveyed in the ORC and current studies. Toyota and Rabbit owners reported higher comfort ratings than did Chevette owners. When responses of owners who found their belts "comfortable to wear" are grouped with those who found the belts "reasonably comfortable," Toyota and Rabbit owners more often reported their systems to be comfortable than did the Chevette owners. All owners with automatic systems reported them to be "comfortable" slightly more often than did owners of manual systems.

TABLE 12 - COMFORT RATINGS

Rating	Automatic			Manual		
	Toyota	Chevette	Rabbit	Toyota	Chevette	Rabbit
Comfortable to wear	65	45	52	61	32	42
Reasonably comfortable	23	31	36	23	35	38
Not comfortable	11	23	12	13	24	17
Missing	1	1	-	3	9	3

NOTE: See Appendix B.

Problems with Automatic Seat Belt Systems

Owners of Toyotas, Chevettes, and Rabbits were asked to indicate whether certain aspects of automatic restraint systems were or were not problems for them (Toyota Questions 26-37). Chevette owners reported each of the aspects as problematic more often than either Toyota or Rabbit owners. All groups considered fit of the belts a problem. (See Table 13) It became evident that the automatic Toyota system had been improved over the Rabbit system when significantly fewer Toyota than Rabbit owners identified the following aspects as problems:

- The way the belt crosses the chest
- The belt exerting too much pressure on the shoulders or chest
- The belt system interfering with getting into, or out of, the car
- The belt causing jewelry, clothing, or other items worn to be damaged, broken or lost.

Fourteen percent of Cressida owners, however, reported that the upper mounting of the shoulder belt came too close to the face or head thus posing a problem. Several Cressida owners volunteered information that the belts "broke cigarettes", "knocked ash off cigars", or "knocked off my hat."

Use Related to Problems with Seat Belts

Further analyses were completed to determine whether or not use of seat belts was influenced by several comfort and convenience factors. As already noted, owners were asked to indicate whether or not certain attributes of seat belts were or were not problems (Questions 26-36). Owners also had been asked to indicate whether they had or had not worn seat belts on their last trip (Question 8). Comparisons of these two sets of responses are reported in this section.

Table 13 on the following page indicates that "belts that rub across the face or neck" and those that "interfere with getting into or out of the car" are problems most often cited by Toyota owners (25%). Forty percent of Chevette owners and 24 percent of Rabbit owners also reported problems with belts that rub. Sixty-six percent of Chevette owners and 37 percent of Rabbit owners reported problems getting into and out of the car.

Non-use of seat belts tended to be related to the problems identified by owners.

Table 14 provides percentages of belt users and non-users among only those owners who had reported different aspects as problems.

TABLE 13 - PROBLEMS CITED BY OWNERS OF CARS EQUIPPED WITH AUTOMATIC BELTS¹

Problem	Automatic Toyota	Automatic Rabbit	Automatic Chevette
The safety belt interferes when reaching for the glove compartment or any of the controls on the dashboard...	11%	13%	21%
The belt resting on or rubbing across your face or neck...	25	24	40
The way the belt crosses your chest...	18	25	28
The belt exerting too much pressure on your shoulder or chest...	7	14	14
The belt system interfering with your getting <u>into</u> , or <u>out of</u> the car...	25	37	66
The belt chafing or rubbing across your chest or some other part of the body...	17	25	32
The belt causing jewelry, clothing, or other items worn to be damaged, broken, or lost...	7	13	18
The upper mounting of the shoulder belt interferes with vision out the side of the car...	4	5	10
The upper mounting of the shoulder belt comes too close to your face or head...	14	8	21

¹ For only this table, columns pertaining to Toyotas and Rabbits have been re-arranged to facilitate easier comparisons. See Appendix B.

TABLE 14 - PERCENTAGE OF BELT USE BY TOYOTA OWNERS REPORTING PROBLEMS

Problem	Belt Use	
	Used Belt	Did Not Use Belt
The safety belt interferes when reaching for the glove compartment or any of the controls on the dashboard...	76%	24%
The belt resting on or rubbing across your face or neck...	89	11
The way the belt crosses your chest...	85	15
The belt exerting too much pressure on your shoulder or chest...	83	17
The belt system interfering with your getting <u>into</u> , or <u>out of</u> the car...	89	11
The belt chafing or rubbing across your chest or some other part of the body...	87	13
The belt causing jewelry, clothing, or other items worn to be damaged, broken, or lost...	84	16
The upper mounting of the shoulder belt interferes with vision out the side of the car...	65	35
The upper mounting of the shoulder belt comes too close to your face or head...	85	15
The belt moving close to your head or face as it moves back and forth when you open the door...	81 (14)*	19
The speed at which the belt moves whenever the door is opened or closed...	78 (4)*	22

*Percent of owners indicating problem with this aspect

Owner Characteristics

Demographic and other driver related correlates of seat belt usage have been extensively investigated over the last decade. Such factors as age, education and income have been found to be, at best, weak predictors of restraint usage. Inconsistent relationships are common, and in those instances where there is consistency, the relationships may more readily be explained in terms of other factors.

One of the most consistent relationships that has been observed is that between education and socio-economic status as measured by occupation and income, (all of which are highly correlated) and safety belt use. Almost all of the studies reviewed by Phaner and Hane¹ and Market Opinion Research (MOR)² found that users of manual seat belts had more education and a higher income than non-users of belts. A more recent study conducted for the General Motors Corporation, confirms this finding. MOR³ found that regular or "confirmed" users of manual belts were more likely to have some college education, graduated from college, or have done some postgraduate work than non-users, and that 'moderate' users tend to have more formal education than non-users.

Other demographic characteristics have been shown to be either inconsistently related to seat belt usage, or not related at all. Age is one such factor. There have been studies showing both a negative and positive relationship between restraint use and age. However, MOR concludes that the "vast majority" of studies find no such relationship. Indeed, in their own study, MOR found this to be the case. Perhaps typical of these seemingly discrepant findings are those obtained by Opinion Research Corporation.⁴ These investigators, in their observational study, found that younger drivers tended to use both lap and shoulder belts (together) more than did older drivers, but that the reverse was true when usage was defined so as to include the wearing of lap belts only.

¹ Phaner, G. and Hane, M., Seat belts -- Factors influencing their use: a literature survey. Accident Analysis & Prevention, 1973, 5, 27-43.

² Market Opinion Research, Safety belt usage project: Developmental phase including focus groups and literature review. (Detroit: Author, May, 1977(a).)

³ Market Opinion Research. Descriptive analysis of the 1977 National survey of adult and adolescent seat belt use. (Detroit: Author, October, 1977(b).)

⁴ Opinion Research Corporation, Use of protective systems in motor vehicles. Report #DOT-HS-7-01736. National Highway Traffic Safety Administration, May, 1980.

Should there be a relationship between age and seat belt use -- in either direction -- it might more readily be explained in terms of "third" variables -- type of car owned, length of trips, education, and even income level.

Vehicle related factors have also been shown to be related to seat belt use. For example, ORC in the study just mentioned also found that belt usage was greater among drivers of foreign cars as compared to drivers of American cars. A possible explanation for the greater use rate found in foreign cars may lie in Hannah's¹ finding that those with higher socio-economic status are more likely to own foreign cars and that such drivers tend to use their restraints more frequently than do low SES drivers. However, it may be that differentials in foreign car ownership account for differences in usage as a function of SES. This is, of course, a problem with correlational research of this kind; causation is difficult to determine.

In the previous study of owners of automatic Chevettes and Rabbits, characteristics of owners -- age, education level, and income -- were investigated to determine if any of those characteristics might account for different attitudes toward seat belts and reported differences in seat belt usage. Accordingly, during this survey, information was collected from owners of Toyotas using the same questions that had been asked of Chevette and Rabbit owners during the earlier survey. If indeed age, education, and/or income are found to influence use of seat belts, these factors should be considered when promotional campaigns to further seat belt use are designed.

Graphs are provided as part of the following discussion to depict age, education level, and reported income for each group of owners. One should bear in mind that the higher incomes of Toyota owners may reflect a general increase of over 10 percent in incomes for 1981. The significantly higher price of the Toyota Cressida may result in ownership by persons of higher income which is, of course, influenced by other variables -- age and education level.

Education Level

Toyota owners reported education levels similar to those of Rabbit owners and higher levels of formal education than did Chevette owners. As shown in Figure 10, 44 percent of Chevette owners reported having finished high school or less; 27 percent of Rabbit owners and 21 percent of Toyota owners said that they had not gone beyond high school. Twice the proportion of Toyota owners as Chevette owners (22% vs. 11%) had attended graduate school.

¹ Hannah, 1975, As cited in Market Opinion Research, 1977(a).

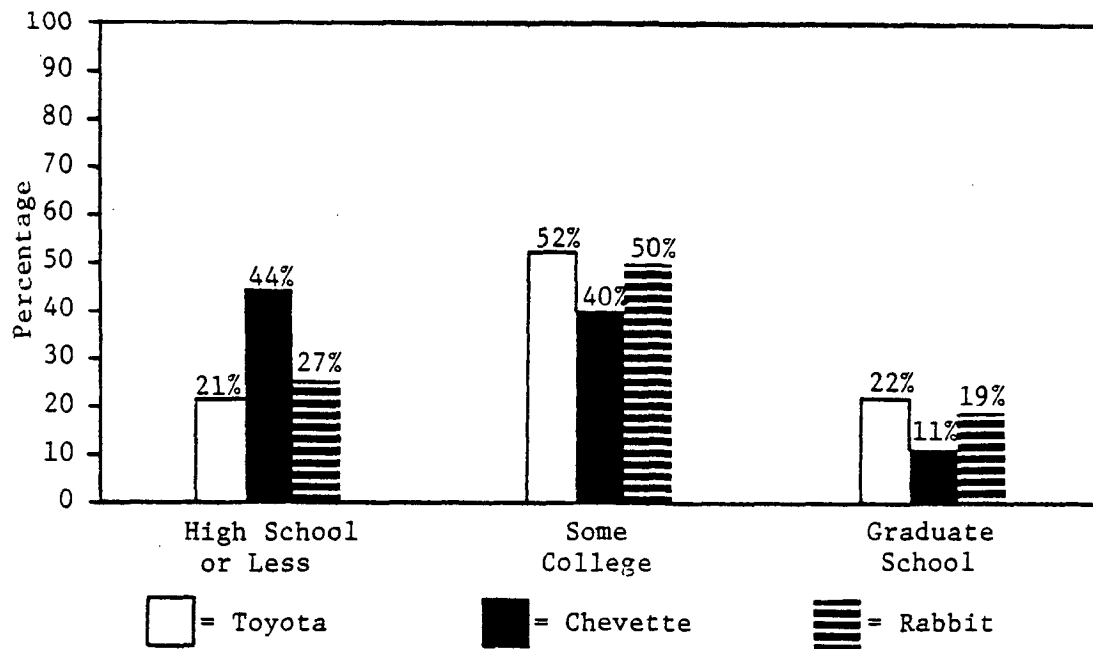


FIGURE 10 - EDUCATION LEVEL OF OWNERS

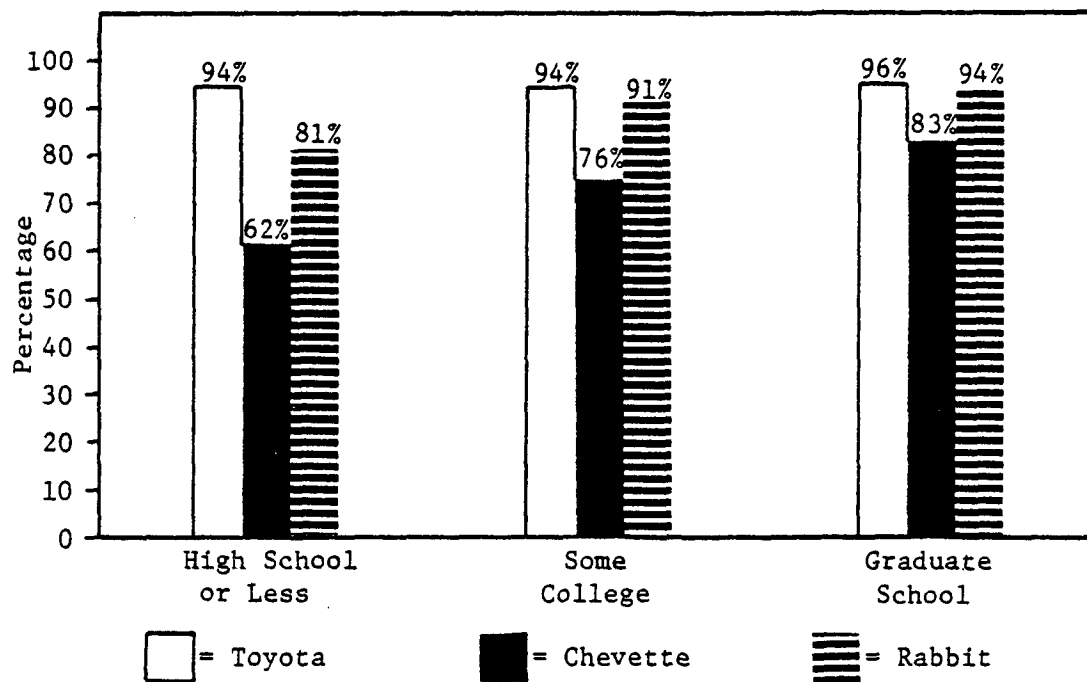


FIGURE 11 - REPORTED BELT USAGE BY EDUCATION LEVEL OF OWNERS

Reported use of seat belts by Toyota owners remained almost constant at 94 percent across owners having attended high school or some college and tends to increase very slightly to 96 percent among those who attended graduate school. These proportions exceed those reported in the earlier study of Rabbit and Chevette owners. Note in Figure 11 that seat belt use tended to increase with increasing years of formal education among owners of Chevettes (62% - 76% - 83%) and Rabbits (81% - 91% - 94%) while remaining relatively constant among owners of Toyotas. Education level thus fails to be an indicator of seat belt use among Toyota owners.

Age

Figure 12 reveals a comparable age pattern between owners of Toyotas and Rabbits equipped with automatic belt systems. Only slightly over 12 percent of Toyota owners and 19 percent of Rabbit owners were found in the under 30 age category although 27 percent of Chevette owners are in this younger age group.

The breakdown of belt users by age (Figure 13) indicates that Toyota owners consistently report use of the seat belts. Over 90 percent of each age group of Toyota owners reported use of the automatic belts, a proportion nearly matched by owners of Rabbits equipped with automatic belts. Chevette owners in all three age categories reported less frequent belt use.

Age of respondents is not a satisfactory predictor of belt usage since use tends to vary little by age in all three groups of owners.

Income

Toyota Cressida owners have the highest incomes reported by any of the three groups of respondents (Figure 14). This finding is not surprising given the fact that the Cressida is a "top of the line," Japanese luxury car, whereas the Chevette is the lowest priced American car, and the Rabbit has long been marketed and promoted as an "economy" model.

Fewer than 2 percent of Toyota owners reported annual incomes before taxes of less than \$15,000, 15 percent reported incomes higher than \$15,000 but less than \$30,000, and 69 percent reported incomes over \$30,000. Even the 10 percent general increase in average incomes in the last year fails to account for the lower incomes reported by owners of Rabbits and Chevettes.

Among all owners, higher income was found to be associated with greater reported belt use (Figure 15). This finding must be treated with caution since the differences in proportions are not great, but more important, because a tendency toward a positive response set may exist among higher income level respondents. Furthermore, income may be closely related to education level and, to some extent, to age. One should consider income level a predictor of belt use only with caution.

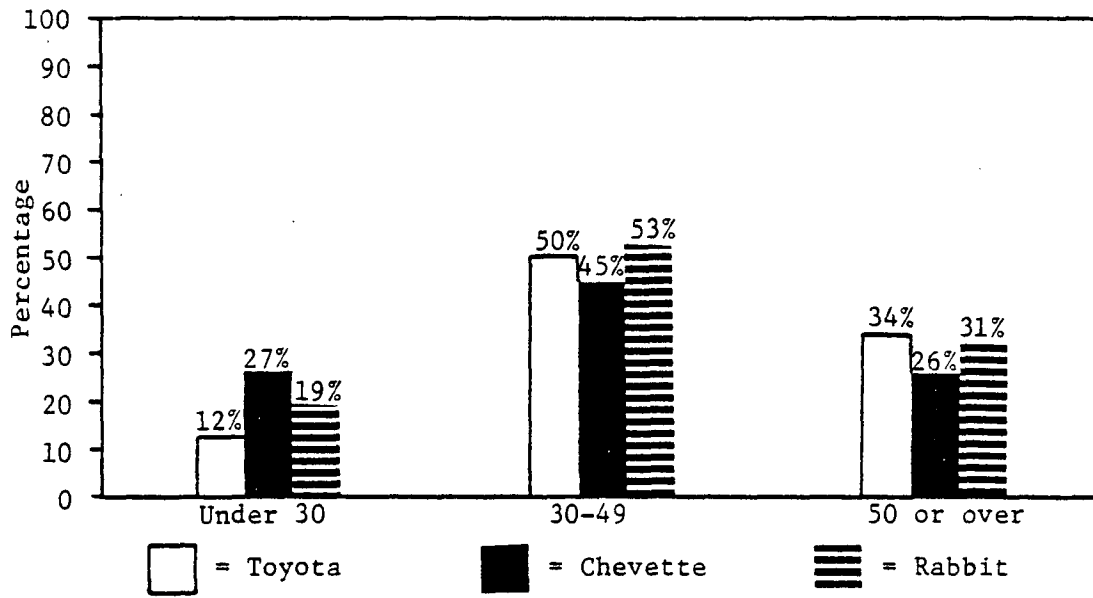


FIGURE 12 - AGE GROUPS

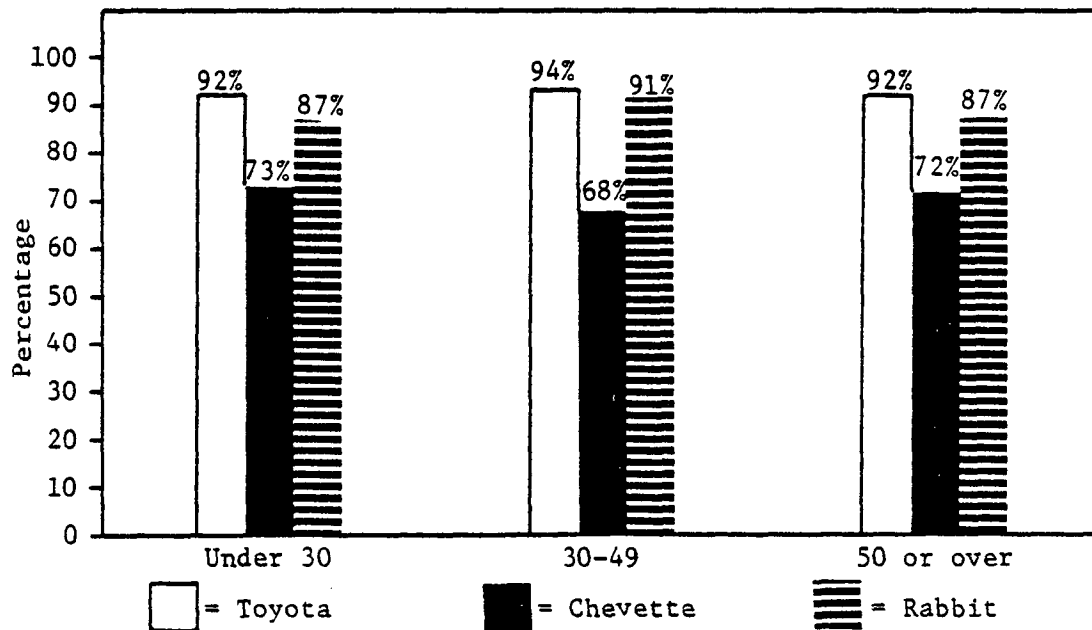
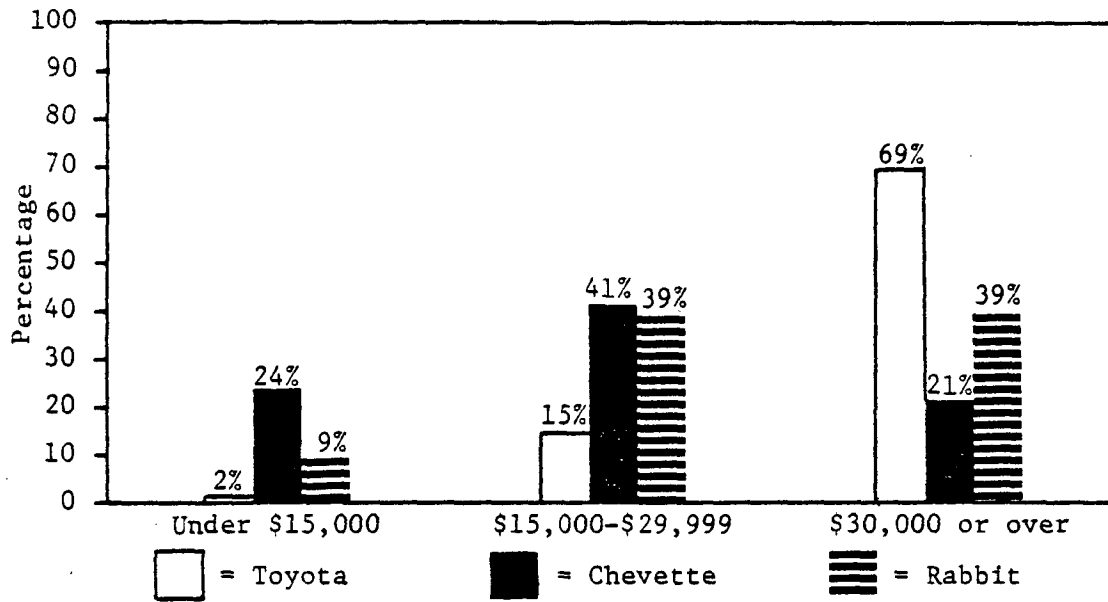


FIGURE 13 - REPORTED BELT USAGE BY AGE OF OWNERS



Note: "Last Year" was 1980 for owners of Toyotas, 1979 for owners of Chevettes and Rabbits.

FIGURE 14 - FAMILY INCOME BEFORE TAXES LAST YEAR

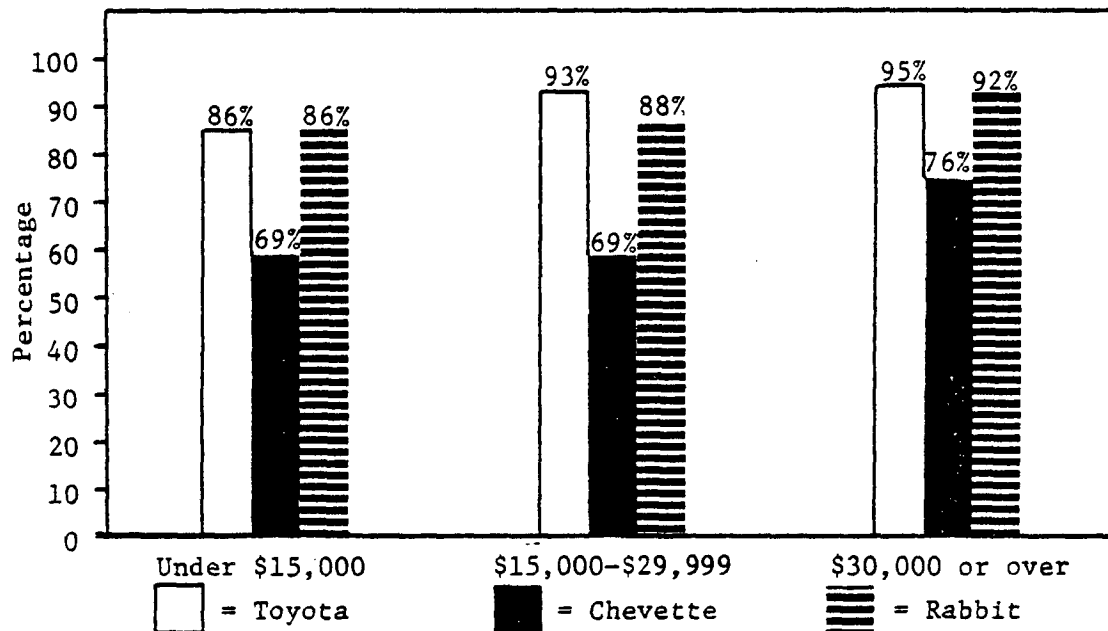


FIGURE 15 - REPORTED BELT USAGE BY INCOME OF OWNERS

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APPENDIX A

SURVEY FORMS

SURVEY OF TOYOTA OWNERS WITH AUTOMATIC BELT SYSTEMS

Hello, I am from JWK International Corporation, in Annandale, Virginia. We are conducting a survey for the U.S. Department of Transportation concerning automobile safety belts. Your cooperation is needed to make the results of this survey comprehensive, accurate, and timely. In addition, your responses will be kept completely confidential and will never be identified with you.

According to our records, you or someone in your family bought a new Toyota within the last year or so. Is that correct?

YES

Code

1

NO

2

IF NO, STOP HERE

I would like to talk to someone who drives this car and also went to visit the dealer to pick out the Toyota.

Do you now drive this car and were you at the dealer's when the car was purchased?

RESPONDENT QUALIFIES

1

RESPONDENT DOES NOT QUALIFY

2

IF RESPONDENT DOES NOT QUALIFY

Is there someone else that I may talk with who drives the Toyota and helped to pick out the car?

IF QUALIFIED PERSON IS UNAVAILABLE

Determine:

Name of Qualified

Person: _____

Best time

to return the call: _____

ASK TO SPEAK TO QUALIFIED PERSON OR ARRANGE
TO CALL BACK

Reintroduce yourself if necessary, and
explain that you're aware the person
recently purchased a new Toyota.

1. We are interested in your reactions to the safety belt in your
Toyota. Does it have:

A regular type seat belt that you buckle yourself,

OR

does the belt automatically operate so that you do
not have to buckle it?

- 2a. I would like you to think back to when you visited the Toyota
showroom and purchased your car. Did you inspect other models
in the showroom before you made up your mind to buy the car you
now have?

YES, INSPECTED OTHERS

NO, DID NOT

IF NO

- b. Did you know pretty much what you wanted and just
ordered the car?

YES, JUST ORDERED

NO

OTHER

3. At the time you ordered your car, did you know that you were
ordering a car with

AN AUTOMATIC BELT SYSTEM?

DID NOT KNOW

DO NOT RECALL

Code

1

2

1

2

1

2

3

1

2

0

4a. When you were at the showroom did you see any cars with automatic safety belts?

	Code
YES	1
NO	2
DO NOT RECALL	0

IF YES

b. Did you get into any of these cars and try on the automatic safety belt?

YES	1
NO	2
DO NOT RECALL	0

5. What was your impression of the automatic safety belt? Would you say it was:

FAVORABLE;	1
UNFAVORABLE;	2
OR NEUTRAL?	3
NO OPINION	0

6. Would you describe the salesperson's opinion of the automatic safety belt as:

FAVORABLE;	1
UNFAVORABLE;	2
OR NEUTRAL?	3
DO NOT RECALL	0

Code

7a. Did the salesperson actually demonstrate how to use the automatic belt, that is, did he get into the car to show you how it operates, or have you or someone with you get into the car with the belt on?

YES	1
NO	2
DO NOT RECALL	0

IF NO OR DO NOT RECALL

b. Did the salesperson discuss or explain the automatic safety belt system to you?

YES	1
NO	2
DO NOT RECALL	0

8. When did the salesperson demonstrate or discuss the automatic belt?

Before you purchased your car	1
When you took delivery of your car	2
Other (explain) _____	3

9. I'm going to read seven different ways that you might have first heard of, or become aware of the automatic safety belt system. After I've read the following statements, please tell me which way best describes how you first became aware of the automatic belt system.

At the dealer where you bought the car	1
In another car, owned by someone else	2
TV advertising	3
Radio advertising	4
Printed advertising (magazines)	5
Word of mouth-someone told you about it	6
This interview	7
Some other way (specify) _____	8

10. Now, which of the following statements that I'm going to read best describes why you decided to buy a car with an automatic safety belt system? Please, do not answer until I've read all of the statements.

It was on the car I wanted; the belt system had no influence on my choice.

1

I preferred the automatic belt over the manual belt.

2

I got a discount on the price of the car because of the belt system.

3

It was the only car the dealer had available with all the other options I wanted.

4

It was the only model the dealer had available for immediate purchase or delivery.

5

I did not know I was buying a car with an automatic belt system.

6

Some other reason (specify) _____

- 11a. Did you specifically ask for or request an automatic belt system when you bought your Toyota?

YES

1

NO

2

IF YES

- b. Why did you want an automatic belt system?

General safety

1

Convenience, no need to buckle-up

2

To protect others in the car

3

Other (specify)

4

12. About how many months have you owned your Toyota?

 / / /

13a. What kind of trip did you take the last time you drove your Toyota? Was it:

A short drive, 25 miles or less round trip;

1

or a long drive, more than 25 miles round trip?

2

Do not recall

0

13b. Try to recall that last trip and tell me as accurately as you can if you did or did not wear the safety belt.

DID WEAR BELT

1

DID NOT WEAR BELT

2

OTHER (explain)

3

DO NOT RECALL

0

14a. Now, think back to your last trip where you drove a car that did not have an automatic seat belt. Was that trip:

A short drive, 25 miles or less round trip;

1

or a long drive, more than 25 miles round trip?

2

Do not recall

0

14b. For that specific trip, tell me as accurately as you can if you did or did not wear the safety belt--that is, one that you have to buckle yourself?

DID WEAR BELT

1

DID NOT WEAR BELT

2

OTHER (explain)

3

DO NOT RECALL

0

15. Thinking back to the first time you used the automatic safety belt in your Toyota, would you say your impression of it was:

FAVORABLE;

1

UNFAVORABLE;

2

OR NEUTRAL?

3

NO OPINION

0

16. Now that you have owned your car awhile, would you describe your impression of the automatic seat belt as:

FAVORABLE;

1

UNFAVORABLE;

2

OR NEUTRAL?

3

NO OPINION

0

17. What specifically do you like most about your automatic seat belt?

 / / /

18. What specifically do you like least about your automatic seat belt?

 / / /

19. If you were to purchase another new car and the model you wanted was available either with the automatic seat belt or the regular type of seat belt, which system would you choose? (Assume no difference in cost.)

AUTOMATIC

1

REGULAR

2

OTHER (specify)

3

NO OPINION

4

20a. Has either the driver's or passenger's safety belt in your Toyota been cut off or removed or in some way been fixed so that it can't be used?

YES

1

NO

2

IF YES

b. What specifically was done to the belt system so that it can't be used?

/ / /

c. Can you tell me why this was done?

/ / /

21. In your Toyota, would you have preferred an automatic safety belt system that came with a buckle release so that you could disconnect the belt system?

YES

1

NO

2

OTHER (specify)

3

22. If you do not want to use the automatic lap/shoulder belt in your new car, what do you do to the belt so that you do not have to use it?

Code

 / / /

23a. Have you had any problems, that is, malfunctions or mechanical failures with any part of the safety belt system?

YES

1

NO

2

IF YES

b. Please describe the problem.

 / / /

24. In general, would you say that your belt system is:

CONVENIENT TO USE;

1

REASONABLY CONVENIENT;

2

OR NOT CONVENIENT TO USE?

3

25. How about the comfort of the belt system, would you say it is:

COMFORTABLE TO WEAR;

1

REASONABLY COMFORTABLE,

2

OR NOT COMFORTABLE?

3

WE WOULD LIKE YOUR OPINION ON SOME SPECIFIC POINTS RELATED TO COMFORT AND CONVENIENCE ASPECTS WHEN YOU ARE WEARING THE SAFETY BELT IN YOUR TOYOTA. FOR EACH ONE I MENTION, PLEASE TELL ME IF YOU CONSIDER IT A PROBLEM, OR NOT A PROBLEM.

- | | Code | | |
|---|---------|------------|------------|
| | PROBLEM | NO PROBLEM | NO OPINION |
| 26. The safety belt interferes when reaching for the glove compartment or any of the controls on the dashboard would you say that is a problem for you, or not? | 1 | 2 | 3 |
| 27. The belt resting on or rubbing across your face or neck--is that a problem for you, or not? | 1 | 2 | 3 |
| 28. The way the belt crosses your chest--is that a problem for you, or not? | 1 | 2 | 3 |
| 29. The belt exerting too much pressure on your shoulder or chest--is that a problem, or not? | 1 | 2 | 3 |
| 30. The belt system interfering with your getting <u>into</u> , or <u>out of</u> the car--is that a problem, or not? | 1 | 2 | 3 |
| 31. The belt chafing or rubbing across your chest or some other part of the body--is that a problem, or not? | 1 | 2 | 3 |
| 32. The belt causing jewelry, clothing, or other items worn to be damaged, broken, or lost--is that a problem, or not? | 1 | 2 | 3 |
| 33. The upper mounting of the shoulder belt interferes with vision out the side of the car--is that a problem or not? | 1 | 2 | 3 |
| 34. The upper mounting of the shoulder belt comes too close to your face or head--is that a problem or not? | 1 | 2 | 3 |
| 35. The belt moving close to your head or face as it moves back and forth when you open the door. | 1 | 2 | 3 |
| 36. The speed at which the belt moves whenever the door is opened or closed. | 1 | 2 | 3 |
| 37. Please describe any particular problems you have with the belt system that are particularly bothersome for you. | 1 | 2 | 3 |

/ / /

/ / /

38. Is your Toyota a

2 DOOR

or 4 DOOR?

Code

1

2

NOW, JUST A FEW QUESTIONS FOR BACKGROUND PURPOSES

39. As you know, a person's height, weight, and other measurements have a bearing on the comfort aspects of safety belts. For statistical purposes, would you please tell me your

HEIGHT: FEET

/ /

INCHES

/ / /

WEIGHT: LBS.

/ /

40. In which of these age groups are you?

Under 20

1

20-24

2

25-29

3

30-39

4

40-49

5

50-59

6

60 or over

7

REFUSED

0

41. What was the last year of regular schooling you completed?

GRADE SCHOOL GRADUATE OR LESS

1

SOME HIGH SCHOOL

2

HIGH SCHOOL GRADUATE, NO COLLEGE

3

SOME COLLEGE

4

COLLEGE GRADUATE

5

GRADUATE SCHOOL

6

OTHER (TRADE SCHOOL, ETC.)

7

DOES NOT KNOW, REFUSED

0

42. Which one of these statements comes closest to your total family income before taxes for the last year?

UNDER \$7,000
 \$7,000 BUT UNDER \$10,000
 \$10,000 BUT UNDER \$15,000
 \$15,000 BUT UNDER \$20,000
 \$20,000 BUT UNDER \$30,000
 \$30,000 AND OVER
 REFUSED

Thank you very much

RESPONDENT IS:

FEMALE

MALE

ZIP CODE

IDENTIFICATION NO:

Code
1
2
3
4
5
6
0
1
2
/ / / / / /
/ / /

SURVEY OF TOYOTA OWNERS WITH MANUAL BELT SYSTEMS

Hello, I am from JWK International Corporation, in Annandale, Virginia. We are conducting a survey for the U.S. Department of Transportation concerning automobile safety belts. Your cooperation is needed to make the results of this survey comprehensive, accurate, and timely. In addition, your responses will be kept completely confidential and will never be identified with you.

According to our records, you or someone in your family bought a new Toyota within the last year or so. Is that correct?

YES

Code

1

NO

2

IF NO, STOP HERE

I would like to talk to someone who drives this car and also went to visit the dealer to pick out the Toyota.

Do you now drive this car and were you at the dealer's when the car was purchased?

RESPONDENT QUALIFIES

1

RESPONDENT DOES NOT QUALIFY

2

IF RESPONDENT DOES NOT QUALIFY

Is there someone else that I may talk with who drives the Toyota and helped to pick out the car?

IF QUALIFIED PERSON IS UNAVAILABLE

Determine:

Name of Qualified

Person: _____

Best time to return the call: _____

ASK TO SPEAK TO QUALIFIED PERSON OR ARRANGE
TO CALL BACK

Reintroduce yourself if necessary, and
explain that you're aware the person
recently purchased a new Toyota.

1. We are interested in your reactions to the safety belt in your
Toyota. Does it have:

A regular type seat belt that you buckle yourself,

or

does the belt automatically operate so that you do not
have to buckle it?

- 2a. I would like you to think back to when you visited the Toyota
showroom and purchased your car. Did you inspect other models
in the showroom before you made up your mind to buy the car you
now have?

YES, INSPECTED OTHERS

NO, DID NOT

IF NO

- b. Did you know pretty much what you wanted and just
ordered the car?

YES, JUST ORDERED

NO

OTHER

3. At the time you ordered your car, did you know that you were
ordering a car with:

A MANUAL OR REGULAR BELT SYSTEM?

DID NOT KNOW

DO NOT RECALL

Code

1

2

1

2

1

2

3

1

2

0

4a. When you were at the showroom did you see any cars with automatic safety belts?

YES	1
NO	2
DO NOT RECALL	0

IF YES

b. Did you get into any of these cars and try on the automatic safety belt?

YES	1
NO	2
DO NOT RECALL	0

5. What was your impression of the automatic safety belt? Would you say it was:

FAVORABLE;	1
UNFAVORABLE;	2
OR NEUTRAL?	3
NO OPINION	0

6. Would you describe the salesperson's opinion of the automatic safety belt as:

FAVORABLE;	1
UNFAVORABLE;	2
OR NEUTRAL?	3
DO NOT RECALL	0

7a. Did the salesperson actually demonstrate how to use the automatic belt, that is, did he get into the car to show you how it operates, or have you or someone with you get into the car with the belt on?

	Code
YES	1
NO	2
DO NOT RECALL	0

IF NO OR DO NOT RECALL

b. Did the salesperson discuss or explain the automatic safety belt system to you?

YES	1
NO	2
DO NOT RECALL	0

8. I'm going to read seven different ways that you might have first heard of, or become aware of the automatic safety belt system. After I've read the following statements, please tell me which way best describes how you first became aware of the automatic belt system.

At the dealer where you bought the car	1
In another car, owned by someone else	2
TV advertising	3
Radio advertising	4
Printed advertising (magazines)	5
Word of mouth-someone told you about it	6
This interview	7
Some other way (specify) _____	8

		Code
9.	Now, which of the following statements that I'm going to read <u>best</u> describes why you decided to buy a car with a manual safety belt system? Please do not answer until I've read all of the statements.	
	It was on the car I wanted; the belt system had no influence on my choice	1
	I did not want a car with an automatic belt system	2
	I got a discount on the price of the car because of the belt system	3
	It was the only car the dealer had available with all the other options I wanted	4
	It was the only model the dealer had available for immediate purchase or delivery	5
	Some other reason (specify) _____	
10.	About how many months have you owned your Toyota?	<u> </u> / <u> </u> / <u> </u>
11.	What kind of trip did you take the <u>last</u> time you drove your Toyota? Was it:	
	A short drive, 25 miles or less round trip;	1
	or a long drive, more than 25 miles round trip?	2
	Do not recall	0
12.	Try to recall that last trip and tell me as accurately as you can if you <u>did</u> or <u>did not</u> wear the safety belt.	
	DID WEAR BELT	1
	DID <u>NOT</u> WEAR BELT	2
	OTHER (explain)	3
	DO NOT RECALL	0

13. Now, think back to the last trip you drove another car.
Was it:

A short drive, 25 miles or less round trip;

or a long drive, more than 25 miles round trip?

Do not recall

14. Try to recall that last trip and tell me as accurately as you
can if you did or did not wear the safety belt.

DID WEAR BELT

DID NOT WEAR BELT

OTHER (explain)

DO NOT RECALL

15. If you were to purchase another new car and the
model you wanted was available either with the
automatic seat belt or the regular type of seat
belt, which system would you choose? (Assume no
difference in cost.)

AUTOMATIC

REGULAR

OTHER (specify)

NO OPINION

- 16a. Has either the driver's or passenger's safety belt in your
Toyota been cut off or removed or in some way been fixed so
that it can't be used?

YES

NO

Code

1

2

0

1

2

3

0

1

2

3

4

1

2

IF YES

b. What specifically was done to the belt system so that it can't be used?

 / / /

c. Can you tell me why this was done?

 / / /

17a. Have you had any problems, that is, malfunctions/ or mechanical failures with any part of the safety belt system?

YES

1

NO

2

IF YES

b. Please describe the problem.

 / / /

18. In general, would you say that your belt system is:

CONVENIENT TO USE;

1

REASONABLY CONVENIENT,

2

OR NOT CONVENIENT TO USE?

3

19. How about the comfort of the belt system, would you say it is:

COMFORTABLE TO WEAR; 1

REASONABLY COMFORTABLE; 2

OR NOT COMFORTABLE ? 3

WE WOULD LIKE YOUR OPINION ON SOME SPECIFIC POINTS RELATED TO COMFORT AND CONVENIENCE ASPECTS WHEN YOU ARE WEARING THE SAFETY BELT IN YOUR TOYOTA. FOR EACH ONE I MENTION, PLEASE TELL ME IF YOU CONSIDER IT A PROBLEM, OR NOT A PROBLEM.

20. The safety belt interferes when reaching for the glove compartment or any of the controls on the dashboard--would you say that is a problem for you, or not?

21. The belt resting on or rubbing across your face or neck--is that a problem for you, or not?

22. The way the belt crosses your chest--is that a problem for you, or not?

23. The belt exerting too much pressure on your shoulder or chest--is that a problem, or not?

24. The belt system interfering with your getting into, or out of the car--is that a problem, or not?

25. The belt chafing or rubbing across your chest or some other part of the body--is that a problem, or not?

26. The belt causing jewelry, clothing, or other items worn to be damaged, broken, or lost--is that a problem, or not?

27. The upper mounting of the shoulder belt interferes with vision out the side of the car--is that a problem or not?

28. The upper mounting of the shoulder belt comes too close to your face or head--is that a problem or not?

Code		
PROBLEM	NO PROBLEM	NO OPINION
1	2	3
1	2	3
1	2	3
1	2	3
1	2	3
1	2	3
1	2	3
1	2	3
1	2	3

29. Please describe any particular problems you have with the belt system that are particularly bothersome for you.

Code

/ / /

/ / /

30. Is your Toyota a

2 DOOR:

1

OR 4 DOOR?

2

NOW, JUST A FEW QUESTIONS FOR BACKGROUND PURPOSES

31. As you know, a person's height, weight, and other measurements have a bearing on the comfort aspects of safety belts. For statistical purposes, would you please tell me your

HEIGHT:

FEET

/ /

INCHES

/ / /

WEIGHT:

LBS.

/ /

32. In which of these age groups are you?

Under 20

1

20-24

2

25-29

3

30-39

4

40-49

5

50-59

6

60 or over

7

REFUSED

0

33. What was the last year of regular schooling you completed?

GRADE SCHOOL GRADUATE OR LESS	1
SOME HIGH SCHOOL	2
HIGH SCHOOL GRADUATE, NO COLLEGE	3
SOME COLLEGE	4
COLLEGE GRADUATE	5
GRADUATE SCHOOL	6
OTHER (TRADE SCHOOL, ETC.)	7
DOES NOT KNOW, REFUSED	0

34. Which one of these statements comes closest to your total family income before taxes for the last year?

UNDER \$7,000	1
\$7,000 BUT UNDER \$10,000	2
\$10,000 BUT UNDER \$15,000	3
\$15,000 BUT UNDER \$20,000	4
\$20,000 BUT UNDER \$30,000	5
\$30,000 AND OVER	6
REFUSED	0

Thank you very much

RESPONDENT IS:

FEMALE

1

MALE

2

ZIP CODE

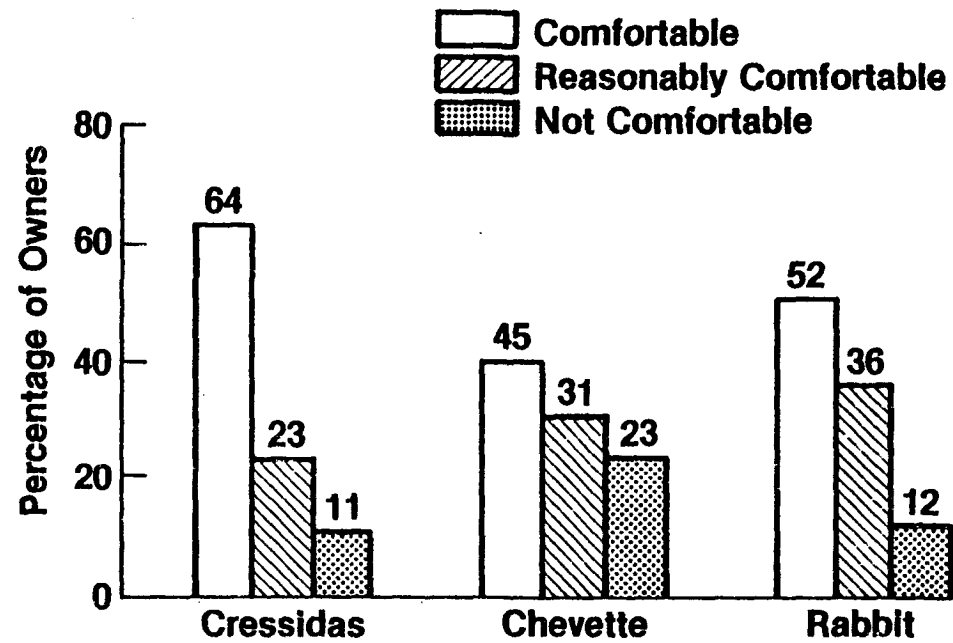
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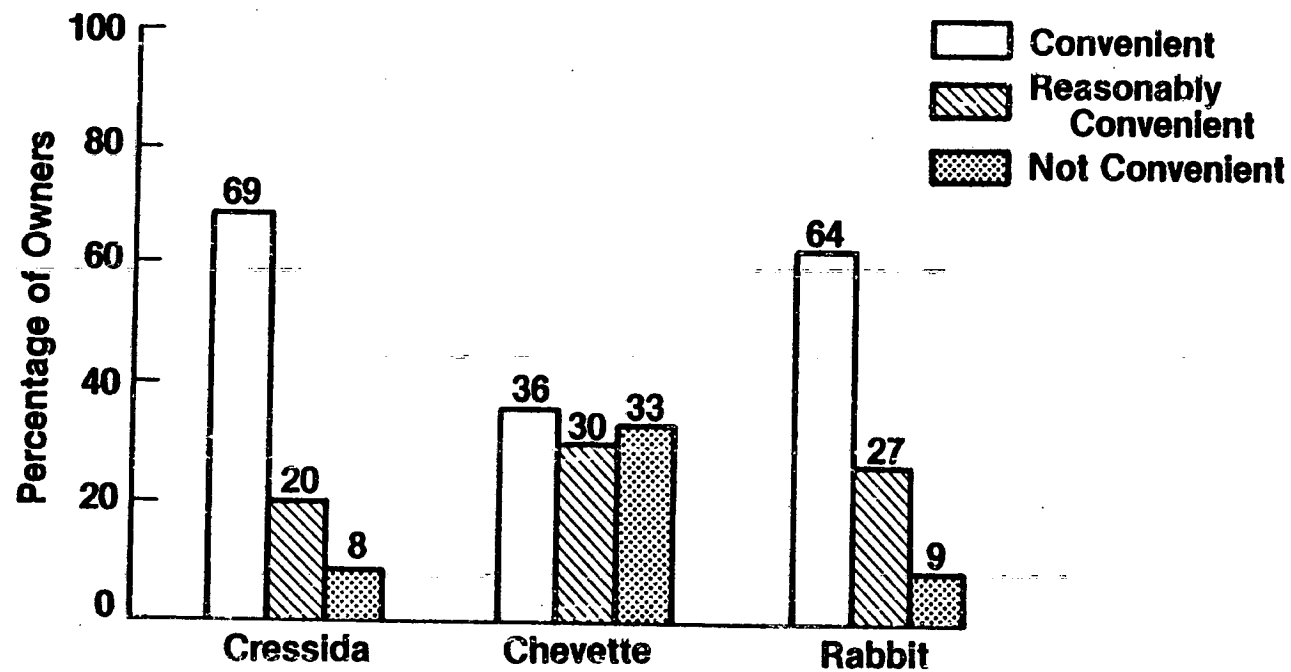
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APPENDIX B

SUPPLEMENTARY FIGURES

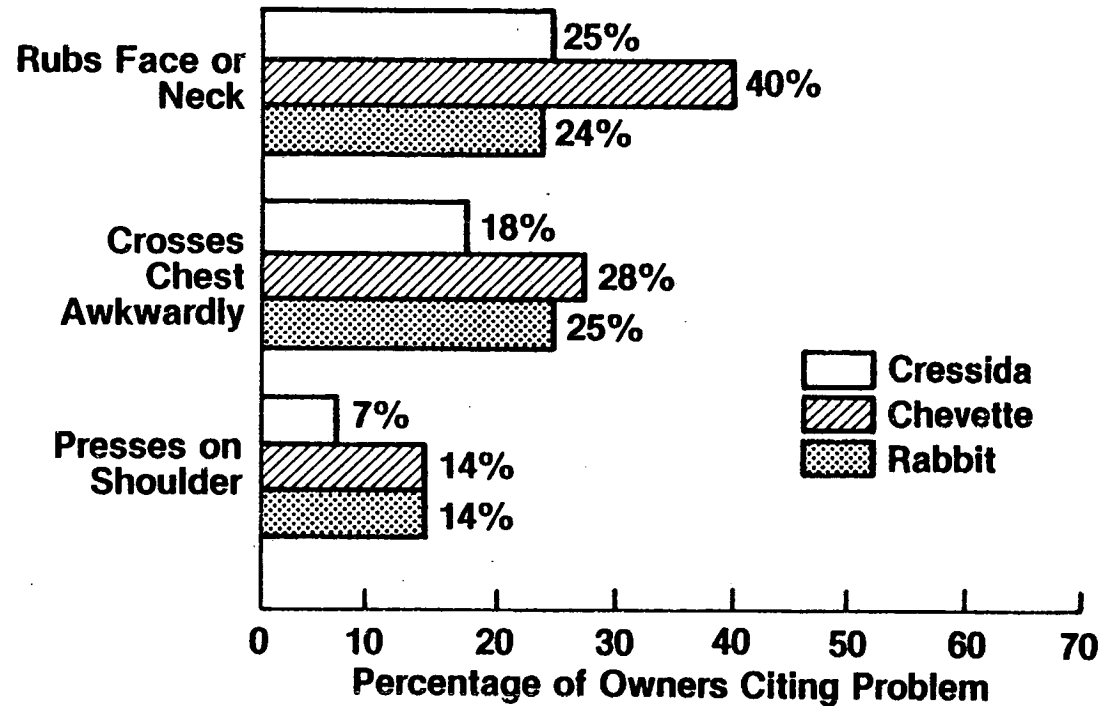


Reported Comfort of Automatic Belt Systems

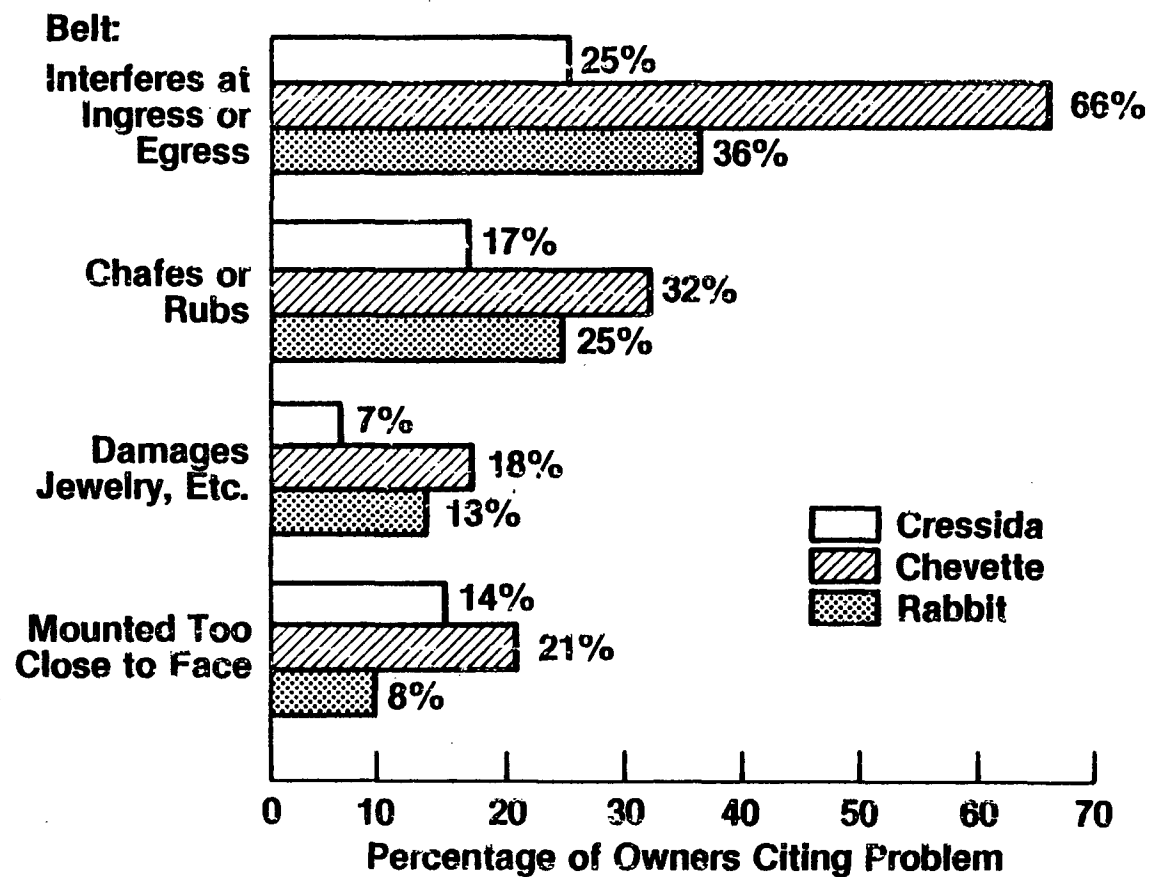


**Reported Convenience of
Automatic Belt Systems**

Belt:



**Problems Cited by Owners of
Cars Equipped With Automatic Restraints**



**Problems Cited by Owners of
Cars Equipped With Automatic Restraints**